Wild Alberta

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Wild Alberta

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"We simply need that wild country available to us, even if we never do more than drive to its edge and look in, for it can be a means of reassuring ourselves of our sanity as creatures, a part of the geography of hope."
Wallace Stegner, 1980.

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Chapter One

Introduction: Wild Alberta

From South to North: Alberta's Wildland Mosaic

Each spring, waves of migrating geese and ducks return to Alberta, as they have for millenia. From on high, they watch the landscape unfold below. Prairie grasslands dissected with coulees and river valleys...patchwork aspen parkland...mixed-wood forests... the dark boreal forests and mighty lakes and rivers of the north...

Alberta's wilderness diversity has evolved over thousands of years, through the long slow cycling of seasons and lifetimes. The natural rhythms of Alberta's wild rivers, forests and prairies have become inseparable from the natural rhythms of the plants and animals they sustain, just as they have become integral to the cultural identity of the native peoples who dwelt here when the first white explorers and traders "discovered" this place.

The changes wrought by modern civilization, however, have altered and in some cases destroyed the natural rhythms of wild Alberta. Just as wildlife habitat is threatened by destruction and change, so too are the cultural identities of native peoples, and the hopes and values of others who treasure wild, natural places.

To be an Albertan is to be different from anyone else in the world. Why? What have we got that makes life here different from life anywhere else?

Wild, natural Alberta is unique. There are wild places elsewhere in the world, but Alberta's landscapes, rivers and ecosystems are unique to this one place on earth. They occur nowhere else. They were not made, and cannot be remade, by humans or technology. They are irreplaceable.

In the past century and a half, the natural wealth and wilderness heritage of what we know as Alberta has come under siege. Where natural forces once defined the patterns of life, a growing human population and a modern economy have superimposed new patterns on the old. Soon, if we do not act now to protect wilderness, it will be gone, wild things will be tamed, and Albertans will have lost an essential part of our identity.

Where those wavering lines of snow geese once looked down upon endless herds of bison strung out across the mixed grass wilderness of southeastern Alberta, now they see grid roads and stubble fields stitched together with barbed wire fences and irrigation canals – just like farmland anywhere else.

Where pintails once found nest sites in the dry grassland near small meltwater sloughs, the grassland and the sloughs are both nearly gone, lost to drainage, drought and over-cultivation – just what has happened in other once special landscapes the world over.

Harlequin ducks still wing their way over the mountain passes into the headwaters of the Oldman,

Bow, North Saskatchewan and Athabasca Rivers, but their age-old migration routes now follow asphalt highways past tourism resorts, clearcut hillsides and strip coal mines.

The great aspen parkland region of central Alberta, where lush grasslands once intermingled with bluffs of poplar, strips of sedge meadow and cattail-bordered lakes and ponds, was one of North America's great summer breeding areas for mallards, teal and other waterfowl. Natural parkland is gone from much of the earth's surface now; and only a few small patches survive in Alberta to remind us of the natural wealth that we have replaced with canola, barley and gas wells.

The sandhill cranes, geese and other northern waterfowl that forge on northwards over what once seemed an endless mosaic of boreal wilderness are no longer assured that the northern ecosystems that always sustained them will still serve them when they arrive. Each spring they look down upon more roads, more clearcuts, and more polluted rivers. Already carved into jackstraw-like patterns by seismic exploration for oil and gas, the growing world demand for high quality paper has now turned northern Alberta's forests into resources for the pulp and paper industry.

Everything Alberta is today is the product of interaction between people and the environment we have been fortunate enough to inherit. From the semi-arid grasslands and coulees of southern Alberta, across the rich diversity of the aspen parkland region to the forested northlands, we have inherited a rich wilderness legacy[1].

The settlers of the late 1800s would have scoffed at the suggestion that we should protect wilderness in order to avoid the possibility of ever running out of it. The last thing they needed to worry about was a shortage of wild country.

But changes add up. The unimaginable is now imaginable. In recent decades conservation groups and native peoples in Alberta have become increasingly concerned that if the frontier mentality is shed too late we may see the end of wild Alberta in our lifetimes.

The wilderness that shaped our history, and may hold the key to a sustainable future, is fast disappearing. Once gone, it will be gone forever, and with it the ecological diversity and the freedom that wilderness represents.

Opportunities – and Crisis

Future land use options are being foreclosed on a massive scale in this generation. Mounting pressures on our natural heritage and the yet unprotected spectacular wilderness and wildlife concentrations and other areas of Canadian significance present an unprecedented challenge of stewardship that commands immediate attention on a truly national scale...By the year 2000 the possibility of dedicating wilderness lands to conservation will have all but vanished.
Federal Minister of the Environment's Task Force on Park Establishment, 1986.

Within the short span of a human lifetime, wilderness has virtually disappeared from practical reach of most populated areas in Alberta. Alberta is now left with only small fragments of native aspen parkland and is down to its last two native prairie wilderness landscapes. Together, aspen parkland and native prairie once covered one-third of Alberta.

Alberta is comprised of 17 distinct natural regions. For seven of these natural regions, the option of protecting wilderness areas as large, say, as Calgary or Edmonton, has already been lost.

The potential loss of the last of wild Alberta should come as no surprise.

As early as 1973 the Calgary Chamber of Commerce sounded the warning:

This Chamber... submits that it is not too late for a comprehensive and cohesive recreation and wilderness plan to be established as the policy of this Province but that at the rate of expansion of the population of cities, another 5 years without such a policy could result in irrecoverable losses in natural areas which need not occur.

[1] For more details on Alberta's biological diversity, see Alberta Conservation Strategy Paper #18: Protecting the Strands of Life.

Another five years did pass. Indeed, another 19 years have passed, along with the predicted irrecoverable losses. How great have the losses been? Consider:

- Once extending over about 255,000 km^2 in the prairie provinces, less than 1% of the original aspen parkland remains.
- The small Rumsey block in central Alberta is the largest remnant piece of native aspen parkland left in the world. Only about 13 km by 18 km in size, it can be walked across in a day. In 1990, a gas company built a gravel road across its centre.
- More than 80% of the native prairie landscape has been turned into farmland, roads and settlements.
- Some 90% of the native fescue prairie has been plowed under, and much of the remaining 10% has been significantly modified by livestock grazing and haying. At only 8 km^2 in size, the Ross Lake area in the Milk River Ridge region is the largest remaining block of foothills fescue grassland suitable for preservation. At 315 km^2 Little Fish Lake (Hand Hills) area may well be the largest tract of native northern fescue grassland left in the world.
- Up to 55% of the cottonwood forests along prairie river valleys has vanished since mid-century, due to upstream dams, along with the wildlife and wilderness qualities of these once great rivers.
- By 1977, there were some 378,200 linear km (approximately 2,347 km^2) of seismic lines alone in the Green Area (forested area) of Alberta. By comparison, only 1,807 linear km of river corridors are considered suitable today for preservation as natural or wild rivers (Alta. Wilderness Assoc., 1985).
- The 1986 State of the Environment Report for Canada estimates that within the boreal forest region of Alberta, four large scale oil and gas development projects alone have resulted in 57,000 km^2 of lost wildlife habitat or reduced wildlife productivity. That is an area larger than Nova Scotia.
- In this same natural region, 61,000 km^2 of forest land was signed over to just one of several new or expanding pulp mills in the late 1980s. This single allocation exceeds the total of all national and provincial parks in Alberta (59,963 km^2), and it is three times the total area conservation groups estimate would be needed to complete a wilderness and parks system in Alberta.

Today, less than 0.9% of Alberta's public land is legally designated as wilderness, with a further 5.2% presently managed as wilderness in the federally established Wood Buffalo National Park. Another 2.2% is managed as wilderness within the Rocky Mountain national parks. Fourteen of the 17 natural regions in Alberta have insufficient protection in the form of parks or other wilderness designations (Table V-1).

Options to protect Alberta's wilderness will run out within our lifetimes.

If we fail to face this fact, and the urgency to correct it, the list of lost or endangered habitats and species will grow, the sustainability of our resource-based economy will diminish, and Canada will squander, bit by bit, its priceless heritage."
Federal Minister of the Environment's Task Force on Park Establishment, 1986.

Wilderness in Alberta's History

Before the 19th century, Alberta's landscapes showed little sign of the work of human beings. Native peoples were part of natural ecosystems. They travelled and hunted on foot and fitted their lifestyles to the seasonal movements of wildlife and extremes of weather. Some bands used fire to create feeding habitat for their favoured prey species, such as bighorn sheep or moose, but for the most part being human meant being responsive to, and culturally integrated with, the wilderness ecosystems of what would one day come to be known as Alberta.

The fur trade represented the beginnings of a change in the relationship between humans and Alberta's natural

environment. As beaver populations were trapped out in the east, explorers and traders penetrated westward into what is now Alberta looking for new sources of fur. Native peoples welcomed the traders as they came to realize that they could exchange furs and meat for knives, beads and even firearms – tools that would improve their ability to exploit their wilderness ecosystem. With tools such as these, humans no longer needed to feel so dependent upon, and at the mercy of, the environment.

Until the late 1800s, most of the contact between white newcomers and natives was in northern Alberta, along the North Saskatchewan, Athabasca and Peace Rivers. Furs were less available in the southern grasslands and the Blackfeet were determined to resist the changes, such as firearms, that the fur trade represented. Even in the north, however, the landscape showed little sign of the cultural transformation that was taking place, because the fur trade did not require changes to land or rivers.

South of the border, however, a growing flood of miners, settlers and other fortune seekers into the American west led to the rapid destruction of the bison herds and the plains people who depended upon them. In 1800, there are estimated to have been 60 million bison on the Great Plains. By 1850, there were only half as many. By 1890, fewer than 50 survived in the world.

The crash in bison populations coincided with the establishment of the Dominion of Canada and Prime Minister John A. Macdonald's National Policy. This policy envisaged connecting the entire country from coast to coast with a railroad. The railroad would secure access to the Pacific coast and allow the Canadian west to be filled with farmers, miners and others who would produce the resources needed to run the economies of southern Ontario and Quebec. The destitute and confused plains Indians readily signed treaties with the Canadian government, allowing newcomers to settle the land in exchange for the promise of food, supplies and reservations on which to live. The railway arrived in the late 1880s, and with it came the first of several waves of settlers.

To the settlers, the wilderness of southern Alberta was anything but appealing. There was little wildlife left to hunt, no respite from seasonal annoyances such as mosquitos and blizzards, and little in the way of community life or basic goods. The settlers were mostly from Europe and they brought European hopes and dreams with them. Only when the native prairie was ploughed up did it begin to become useful to people who had no cultural knowledge of, or value for, the natural plants and animals.

As wilderness was converted to farmland, towns and industry, Alberta's human population skyrocketed. In the 10 years between 1901 and 1911, for example, it increased almost sixfold from 73,000 to 374,000. Today it stands at 2.5 million and continues to grow.

The very fact that the province's modern history has been, for the most part, a frontier history, makes wilderness an essential element of Albertans' identity. The frontier is the place where development and wilderness meet. Today, with the frontier nearly gone, so too is wilderness and its tangible connection to our past. For those indigenous people to whom wild Alberta was not a frontier but a home, the loss of the last wilderness would represent the loss of their cultural identity. And since the last century has seen many mistakes made in our haste to conquer wild nature even before we understood it, the loss of wilderness would represent the loss of the option to rediscover our home, and ourselves, and our way into a responsible, sustainable future.

Why Albertans Value Wilderness

In a frontier society, the future is more highly valued than the past. Much of Alberta's history has been one of replacing nature with technology, uncertainty with control, wilderness with development; concentrating on what can be gained rather than on what is being lost. The natural environment has not been highly valued.

Wild nature produces mosquitos, predators and widely fluctuating rainfall and winter hardship. Development ensures abundant food supplies, pest-free living

conditions, and ways of ameliorating the natural variability of Alberta's climate with crop irrigation, air conditioning and reliable power supplies and transportation systems.

Even so, from the very beginning of Alberta's modern history, there has been recognition of the value and importance of wilderness. Canada's first national park was established in Alberta before the railway had even been completed from coast to coast. Farmers who worked hard to convert prairie sod to wheat and barley still slung shotguns over their shoulders in the fall and set off into the wild coulees and natural sloughs to hunt native sharp-tailed grouse and waterfowl. Ranchers fought to keep the plough from destroying the wild rangelands of the foothills. City dwellers fled the pavement each weekend to re-discover wild nature in the mountains and forests. Native peoples never lost their attachment to a culture shaped by, and dependent upon, wilderness.

There are many reasons why Albertans value wild places and wild things:

Cultural Identity

On almost all levels of culture there are segregated, dedicated, fenced, hallowed spaces.
Erich Isaac, 1964

For the natives who have undergone a century and a half of cultural and economic deterioration, wild natural landscapes hold the key to their identity. A growing reawakening of traditional spiritual values and cultural practices is restoring native peoples' pride in their culture. With that reawakening comes concern for how little remains of the natural ecosystems in which this culture has its roots and from which it draws its strength.

At the same time, a growing number of other Albertans are seeking to establish their own identity as citizens of wild Alberta. A suburban street in Edmonton or Calgary is little different from a suburban street anywhere in the world. Alberta's natural landscapes, however, are unique. Protected wilderness allows us to rediscover, from time to time, what it really means to be Albertan.

Recreation

For hunters, anglers, backpackers and horsepackers, wilderness offers recreation and adventure. Where there is wilderness, there is still a chance to immerse oneself in the natural world. Reminders of humankind and of modern western culture are left behind when one ventures into wilderness. Recreation becomes what the word implies: re-creation.

Heritage

For indigenous peoples, wilderness is the embodiment of their spiritual and cultural heritage. Their ancient religious sites are inseparable from the wilderness settings where they occur.

For the sons and daughters of the pioneers who, two or three generations ago, struggled so hard to convert wilderness into economic opportunity, wilderness is as much cultural heritage as natural heritage. It was upon wilderness that we built the 20th century, with all its hopes, dreams, and legacy of environmental destruction.

Many people value wilderness for what it can tell us of days gone by – the struggles of those who settled the frontier, the sacrifice and emptiness of the native peoples who surrendered control of their homelands and lost their freedom, and the possibilities that once existed in this vast, diverse land.

Conservation

For naturalists and environmentalists, wilderness is a sign of hope for a society that seems to predominantly value technological development and economic growth. Wilderness serves as a reservoir of biodiversity and of natural ecological processes. If we damage or deplete our more developed landscapes, there may be hope of healing the wounds so long as enough wilderness

survives. The famous American conservationist Aldo Leopold once said of wild prairie:
Some day we may need this prairie flora not only to look at, but to rebuild the wasting soil of prairie farms...

Tourism, Recreation and Diversification

Increasingly, Albertans in recreation and tourism businesses value wilderness for its potential to contribute to economic diversification. In a world where clean air, fresh water, abundant wildlife and unmarred scenery are rapidly disappearing, Alberta's surviving wilderness is becoming extremely valuable. Existing national parks and other protected areas can no longer keep up with the demand from Germans, Japanese, Americans and other citizens of industrial regions who are willing to pay well in order to escape their own artificial landscapes and rediscover the wilderness world of randomness, uncertainty and wild nature.

Their willingness to pay represents potential for significant economic development in communities adjacent to protected wild areas. Protection of wilderness thus contributes to local economies in two ways: it brings tourism dollars into the community, and it ensures local residents of continued opportunities to directly enjoy wilderness.

Self-identity

As Alberta itself grows more and more urbanized and densely populated, a growing number of Albertans value their own wilderness areas for precisely the same reasons as the tourists who flock to the province from around the world. We are creatures of our environment, and there is a powerful bond that draws us back from our safe, controlled, unnatural modern landscapes to the wild places, wildlife and risks that are our species heritage.

A Vision For Tomorrow

We tend to think of Alberta as young, fresh, clean, and limitless. We think of our wild places as inexhaustible. In truth, we are well on the way to joining the rest of the developed world in the downward spiral of environmental deterioration. Soil erosion, river contamination, deforestation and urban sprawl are not other people's problems; they are modern realities here at home.

The Alberta of the 1990s was unimaginable in the 1890s, but it arrived nonetheless. The Alberta of the next millennium is coming too. Albertans must decide today what tomorrow's Alberta should look like. We will get our future one way or another, by design, or by default. But a design, a vision, gives you something to aim at.

What if the Alberta of tomorrow included – in addition to sustainable agriculture, healthy cities, a diverse and strong economy and well managed resource industries – a network of protected wilderness areas?

What if enough wilderness was preserved to allow Albertans to experience it, to retain the basis of indigenous cultures, and to represent the full diversity of our natural landscapes? How would it feel to live with the comfortable certainty that wild Alberta would always be there for us when we needed it?

We would know that if our experiments at managing Alberta's resources failed, there would still be wild places where the original Alberta survived. We would not have burned our bridges.

Tourism and recreation businesses that rely upon access to nearby wilderness would be strong and diverse. Adventure and ecotourism operators, outfitters, hunting and fishing guides and communities adjacent to the wilderness would be secure in the knowledge that the wild, free places they depend upon had been secured for the future.

Businesses in the growing service and high technology sectors would choose to locate in Alberta because of the unique quality of life represented by its network of protected areas. Wildlife and natural ecosystems would thrive.

The conservation battles of the past would be simply an interesting bit of historical trivia, because an earlier generation – this generation – had shown foresight in developing a conservation strategy that preserved wilderness for all time, in all regions of this special place called Alberta.

Wouldn't that be a ***fine*** place to live?

Chapter Two

What is Wilderness?

Like winds and sunsets, wild things were taken for granted until progress began to do away with them. Now we face the question of whether a still higher 'standard of living' is worth its cost in things natural, wild, and free.
Aldo Leopold, 1949.

Wilderness in the Public Mind

Wilderness clearly holds many types of benefits and values for modern society. Because of this, wilderness has almost as many personal meanings and descriptions as there are individuals who value it. Even so, there is a remarkable degree of international public consensus on the meaning and importance of wilderness.

Wilderness is generally considered a large tract of land or water with no evidence of human activity, where natural forces are left to operate on their own. Humans visit wilderness, but they do not stay and their activities leave no lasting marks. Most users of wilderness areas identify over crowding and the evidence of human impacts or developments as the two main factors that degrade wilderness (Stankey, 1985).

Some traditional wilderness advocates tend to focus on wilderness as a recreational resource where backpacking, horse travel and regulated hunting, fishing and berry-picking can be acceptable as long as they do not cause lasting or visible damage. There is a wholly unique aspect to wilderness recreation, however, which derives from the fact that wilderness itself is a unique entity. Wilderness use immerses humans in natural, wild landscapes where nature, not man, controls all the variables. Thus, while there is indeed something uniquely special about wilderness recreation, most wilderness advocates feel that recreation is only a **benefit** of wilderness protection, not the **reason** for it. There are many reasons for protecting wilderness.

Many in resource commodity industries like oil and gas, forestry or mining tend to view wilderness as a restrictive, antisocial designation. Protected wilderness, rather than serving a valuable public service, is seen as "locking up" resources that should be developed for economic benefit. The history of wilderness protection has often involved compromises to protect the interests of resource commodity industries, often at the expense of wilderness integrity.

For example, the boundaries of Alberta's famous Willmore Wilderness Park were twice amended to allow strip-mining of coal for the economic benefit of the neighbouring town of Grande Cache. Unfortunately, the boundary changes meant that bighorn sheep, mountain goat and the endangered woodland caribou lost vital winter range, and the ecological integrity of the shrunken wilderness area was badly compromised. And Grande Cache still lacks a sustainable economy.

As early as 1958 the need for protected wilderness areas was the subject of a meeting of the Alberta Fish and Game Association, the Alberta Outfitters, and the Minister of Lands and Forests. Public demand for wilderness led ultimately to the 1970 provincial public hearings inspired by Bill 106, An Act Respecting Wilderness Areas.

Wilderness groups in Alberta do not support restricting wilderness to the extremely rigid protective status of Alberta's three existing wilderness areas. While recognizing that these sorts of areas – more accurately called ecological reserves due to their restrictions on human use – have an important role to play, conservationists argue that there is a need for areas that better reflect the cultural value of wilderness.

Wilderness in Law and Public Policy

The definitions used by public interest groups advocating the protection of wilderness in Alberta are consistent with those embodied in legislation and policy elsewhere.

Canada's National Parks Act, passed in 1930, authorized the Parliament of Canada to set aside national parks that would be "preserved unimpaired" for all time.

Although national parks were initially viewed as scenic recreational areas with a variety of roads and other facilities, emerging public concern for conservation of ecological integrity led to a continued evolution of policy toward increased wilderness protection.

The current (1979) National Parks Policy defines wilderness as:
extensive areas which are good representations of each of the natural history themes of the park and which will be maintained in a wilderness state. Only certain activities requiring limited primitive visitor facilities appropriate to a wilderness experience will be allowed. Limits will be placed on numbers of users. No motorized access will be permitted. Management actions will ensure that visitors are dispersed.

The 1964 U.S. Wilderness Act offers a less bureaucratic definition of wilderness, and one that clearly reflects the public consensus that gave rise to this visionary legislation:

Wilderness, in contrast with those places where man and his own works dominate the landscape, is... an area where the earth and the community of life are untrammeled by man, where man himself is a visitor who does not remain.

In October 1981, Canada endorsed the World Conservation Strategy, which lists, among 13 priority requirements for conservation for sustainable development: *...establishment of a comprehensive network of protected areas, securing the habitats of threatened, unique and other important species, unique ecosystems, and representative samples of ecosystem types.* (Environment Canada, 1981). In 1984, at their General Assembly, the International Union for the Conservation of Nature (IUCN) concluded that: *...wilderness areas are characterized by an essentially natural condition, without roads or significant developments, and which are maintained to perpetuate those conditions and to afford opportunities for recreation which emphasize solitude and communion with nature.*

It is important to note that these definitions define wilderness not as a kind of recreation but as a resource – a tangible thing that must be protected not just for its recreational value but for a wide range of values. Wilderness has distinct attributes that simply cannot be provided by modifying other land uses like energy development, agriculture or logging. Unlike traditional resources, which are perceived as being of value because they can be used by humans, wilderness areas have their own intrinsic value as places where human use is secondary to the free functioning of the natural world.

Note the shift in emphasis, like changing the popular slogan, "Parks are for People" to the more subtle "People in the Service of Parks." Wilderness, wild areas, can only survive as natural ecosystems that are ministered to, served, not just preserved, for only such attitudes on our part set their values above human needs and wants. Otherwise, bereft of the only protection that counts–high valuation–they will be used to death.
(Rowe, 1990)

Wilderness: A Working Definition

Perhaps the best working definition for wilderness, and the one which will be relied upon for this discussion paper, was developed by the IUCN in 1973:

An area in this category has two principal purposes, that of protecting nature (defined as primary) and that of providing recreation for those capable of enduring the vicissitudes of wilderness travel by primitive means (without motorized transport, roads, improved trails and developed campgrounds, etc.). The area is maintained in a state in which its wilderness or primitive appearance is not impaired by any form of development, and in which the continued existence of indigenous animal and plant species is assured. However, it is available to wilderness travellers, essentially in its entirety, and thus does not have the limits on use that are imposed on strict or managed natural areas. Some modifications of natural conditions resulting from wilderness recreational use may be expected, but major modifications need be avoided through restricting either the number of visitors or their activities.

Chapter Three

Why Protect Wilderness?

Cultural Value of Wilderness

Only those able to see the pageant of evolution can be expected to value its theater, the wilderness... But if education really educates, there will, in time, be more and more citizens who understand that relics of the old West add meaning and value to the new. Youth yet unborn will pole up the Missouri with Lewis and Clark, or climb the Sierras with James Capen Adams, and each generation in turn will ask: Where is the great white bear? It will be a sorry answer to say he went under while conservationists weren't looking.
Aldo Leopold, 1949.

Our wild, untrammelled[2] places are things that we as North Americans possess that are distinctly different from the Old World. Around these places has developed much of our art, music and literature. Out of them was shaped our present culture and many of our values and attitudes.

In 1964, a public brochure distributed by the federal Minister of Northern Affairs and National Resources entitled Canada's Quiet Places pointed out:
It is easy to see that in less time than it is comfortable to think about, Canada could be so changed that our children might have only films or photographs in libraries to remind them of the wilderness beauty that once was Canada. ... What a tragedy that would be, because Canada's identity springs from the face of the land that influenced exploration and settlement and shaped the character and culture of Canadians.

Wilderness has much to tell us about the landscapes and experiences that brought our culture to where it is today. The wilderness experience may hold the key to helping our culture evolve into a more ethically balanced and environmentally responsible future mode.

Economic Value of Wilderness

Wilderness has real economic value. It does not stand in the way of economic development, but contributes to it.

Traditionally, economics has focused on things that can be bought and sold, measuring value in terms of dollars and cents. This is a flawed and incomplete approach to economics. Economics is the science of measuring the relative value of things, and many things that cannot be sold in the marketplace, such as the ozone layer, have a very high public value.

It is because of the failure of commercial markets to adequately value environmental resources such as wilderness that public bodies must do what the market cannot: systematically and accurately evaluate these resources which might be wasted or damaged.

Commercial interests will speak for the extractive resources. Public and government organizations must speak for the non-commercial, public resources, such as wilderness, and see to it that their value is considered on a par with the extractive resources in land use and management.
(Power, 1988).

[2]"Untrammeled" does not mean untrampled: it means "free of human controls and manipulation that would stand in the way of natural forces."

However, even just in terms of dollars and cents, wilderness has considerably more value than might appear at first glance.

Protecting wilderness areas can provide a number of direct economic benefits. Wilderness protection can help avoid diseconomies of development, promote balanced land-use patterns, and enhance regional development and stability.

Avoiding Diseconomies of Development

In the western United States, economic studies have shown that timber harvesting in high elevation "over-mature" forests on public lands is an economic loss to the public; it costs the taxpayer more than it pays back. Designation as wilderness can prevent this loss of public funds, freeing those funds for use in more productive sectors (Irland, 1979). The cost of wilderness is low, after all: it requires no roads, bridges, gasoline or buildings.

Promoting Balanced Land Use

Communities in British Columbia that failed to diversify their local economies and allowed their regional land base to be turned over to single uses like logging have recently paid the price. When a mill in Skookumchuk closed down, 300 jobs vanished. Options for tourism and recreation development had been lost since large clearcuts marred the scenic vistas adventure tourists seek. Without diversification, the local communities had no economic buffer.

Society is complex. While many people value resource exploitation, others value wilderness or wildlife or adventure. Responsible land use planning balances the needs and values of all sectors of the public. Balanced land use must include wilderness protection, or the whole public interest is not served.

Enhancing Regional Development and Stability

Recent research from the University of Idaho shows that U.S. counties which encompass or are adjacent to designated wilderness areas are among the fastest growing in the country. The reports suggest that wilderness is a major draw for new visitors. Of 277 counties with wilderness areas, the average population growth was 37% in the 1970s. Rural counties with no designated wilderness grew only 13%. Urban counties grew only 10%. From 1980 to 1985, counties with wilderness areas grew 24%, non-wilderness area rural counties 7%, and urban counties 11%. No counties encompassing wilderness areas stagnated or lost population. Clearly, arguments that wilderness protection will drive away economic development are wrong.

Wilderness protection ensures a high quality of life. Retired people, service-based companies and an increasing number of other industries are highly mobile. Business research has shown repeatedly that the most highly skilled and highly motivated staff are attracted not so much by increased pay as by increased quality of life benefits. The U.S. research seems to indicate that wilderness protection is one quality of life indicator that makes communities attractive for those seeking to relocate out of less attractive areas.

Alberta has recently begun to look more and more to the tourism industry to play a key role in our economic diversification strategy. Wilderness preservation will play a vital role in positioning Alberta as a unique, highly desirable tourism destination.

An assessment of market potential for recreation and tourism development in Alberta's Eastern Slopes, for example, determined that tourists have a greater concern and appreciation for the natural environment, and that the demand for wilderness experiences is likely to increase (Balmer, Crapo & Associates, 1976).

As the merchants of Banff and Jasper National Parks can testify, wilderness areas are major tourist destinations, as well as an important amenity for

neighbouring residents and communities. Some wilderness proposals put forward by public interest groups (e.g. Elbow-Sheep Headwaters) have been classed by the Alberta government as "a major tourism development", even though no facility development takes place within the wilderness. Rather, the area is an impetus for facility development on adjacent lands, as well as a tourist destination itself. Unlike golf courses and ski areas, wilderness protection can offer tourism benefits at minimal cost to the public purse – an important consideration at a time of fiscal restraint.

Wilderness, in fact, is the very type of attraction upon which Alberta is basing part of its international tourism marketing. For example, the Alberta Adventure Guide booklet is distributed abroad to attract tourists to: *Sparkling rivers, forested foothills. Dramatic mountains and northern lakes. All waiting to be explored and experienced by you. ... Seek your adventures in the high peaks of the majestic Canadian Rockies, or in the beautiful meadows and valleys–rich with striking scenery, forests, lakes and rivers. Or you can visit an area where the land is still untouched ...*

Areas "where the land is still untouched" are, however, scarce in Alberta and North America. As the demand for wilderness continues to increase, so does its economic value.

The economic loss to Albertans of not designating and protecting wilderness lands and rivers could be substantial. For example, U.S. studies show that for every dollar spent on Colorado's wilderness areas during 1984, the public realized a $23.00 return in benefits.

Non-Market Values

In addition to the direct dollar value of wilderness, many added values are not included in market based economic assessments.

Economic well-being is determined by the flow of goods and services that allow people to satisfy their needs and desires. These goods and services flow from only two sources: the natural environment and the social environment.

The natural environment provides physical resources and raw materials as well as natural beauty and recreational opportunities. The social environment provides the knowledge and organization to transform raw materials into more useful forms, the education and awareness to more fully appreciate certain aesthetic aspects of life, and the security that allows individuals and groups to pursue their lives and livelihoods.
(Power, 1983)

Because the main source of these non-commercial goods and services is not through the market, it can be hard to define their value. This does not mean that they have no economic value. Non-market goods such as clean air and water, recreational opportunities, unspoiled landscapes and water bodies, beautiful scenery and fish and wildlife all contribute to our economic well-being by providing goods and services which are crucial to the maintenance of a high quality of life.

Environmental goods and services are as 'economic' in character as marketed goods and services and are no more 'aesthetic' or 'subjective' than those goods and services sold on the market. ... The non-market goods and services flowing from the natural and social environment share the same aesthetic and social characteristics as goods sold on the market for profit. What makes them different is that they are not bought and sold, and profit making is not the dominant source of supply.
(Power, 1983)

Economists are becoming increasingly sophisticated at measuring non-market values. One method involves surveying the public to find out what people would be willing to pay, on average, to ensure that they continue to receive certain values from wilderness or other public resources. There are now several studies that have looked at these sorts of value:

Option Value – the value of keeping options open for the future. What would you be willing to pay to ensure that your children or grandchildren will be able to experience wilderness or, for that matter, to

ensure that you might have some future opportunity to visit a wilderness area?

Existence Value – the value of simply knowing a wilderness area exists, even though one may never use it. How much would you pay to make sure that there will always be wild places where grizzlies can range free?

Bequest Value – the value given a wilderness area as a bequest for the next generation, as with museums, archaeological sites and works of art.

Assessments in Colorado have shown that the measurable recreation use value of a given wilderness area or wild river may only account for one quarter of its full economic value (Walsh, et al, 1982).

Because wilderness is a nonproducible resource, decisions regarding allocation of the land to developed uses are irreversible in an economical sense. Furthermore, no substitute resources exist. The supply of wilderness is therefore fixed or decreasing. Because demand for wilderness is presently increasing, the real value of wilderness (relative to other goods and services) is also increasing.
(U.S. Forest Service, 1981).

You don't have to be an economist to know that the real economic benefit from wilderness areas will rise over time, compared to the benefit of exploiting these areas for raw resources like coal or wood. This is because:

(a) there is a fixed supply of natural, unaltered environments

(b) technological change increases productivity and introduces substitutes for goods produced from natural resources. Demand for recycled and chlorine-free paper, for example, continues to dampen demand for bleached fibre from raw timber – even as national parks struggle to accommodate skyrocketing demand for wilderness from the very consumers who no longer want the wood.

Ecological and Scientific Value of Wilderness

The fact is, the best way to save most species is to protect habitat and let the species save themselves. We've had some success intervening forcefully to rescue species in trouble – waterfowl and peregrine falcons – but that works only when there's a support network of suitable habitat and food resources. If the support network doesn't exist – if the once suitable habitat has been greatly changed or poisoned, as with the condor, the black-footed ferret, and the ivorybill– all efforts to save species are essentially wasteful and should not be undertaken until an effort to restore habitat has succeeded.
(Audubon magazine, 1986)

One of Aldo Leopold's most-quoted lines is: "*The first principle of intelligent tinkering is to save all of the pieces.*" Protecting large wilderness areas in each of Alberta's natural regions is the surest way of keeping all the pieces – as well as their many complex ecological interactions with each other and their landscapes – while we tinker with the rest.

The Alberta Conservation Strategy paper Preserving the Strands of Life clearly shows the need for conserving Alberta's ecological diversity. The most practical and safest way to ensure the survival of species is to set aside intact areas in which natural ecosystems can maintain themselves. "The survival of the system itself is the best guarantee of the survival of individual species" (Gaston, 1981). If restoration is even possible at all, the cost of restoring lost or damaged habitat is far higher than simply retaining the habitat in the first place.

Several species of native wildlife depend on wilderness, or on habitat qualities that wilderness offers. The trumpeter swan is unable to recolonize much of its former natural range in Alberta because nesting pairs cannot cope with human disturbance. Woodland caribou populations have crashed in Alberta because industrial activity has brought too many stresses – habitat loss, roadkill, increased hunting and predation,

harassment – to a species that has specialized habitat needs and a low reproduction rate. Grizzly bears come into conflict with humans when the two species get too close to each other; they survive best in large wilderness areas.

Large, wide ranging species with low reproduction rates and specialized habitat needs may only survive if we establish protected wilderness areas in their core ranges.

The scientific benefits of strictly protected areas, including wilderness, were recognized as early as 1964 with the beginning of the 10 year long International Biological Programme (IBP) undertaken by 58 nations including Canada (Taschereau, 1985).

If we are to make wise decisions about how to use the environment, and how to sustain our life as a species on this planet, we need to understand how ecosystems function and react to change. To obtain this information, we need undisturbed ecosystems as baselines of information and benchmarks against which to measure the effects of human modification. Scientists recognize retaining wilderness as the best way to keep ecological benchmarks.

In recent years, research has expanded to study changes in ecosystems over time. Studies of landscape diversity in Yellowstone National Park concluded that when properly managed, large wilderness areas provide the best and probably the only locale for studying the kind of landscape changes that occurred for millennia in pre-settlement times (Romme and Knight, 1982).

The Intrinsic Values of Wild Places and Wild Things

The idea that everything exists to be used by humans is an idea that appeals only to humans, and only to some of us at that. A growing body of philosophical, religious and ethical literature argues that all of nature has intrinsic value – value that has nothing to do with the tastes or desires of human beings. This dawning realization in some ways reflects a rediscovery of the traditional wisdom of many indigenous cultures.

This school of thought argues that humans exist within nature, find their own context and value within the context of nature, and should never be so foolish as to assume that we are greater than nature or destined to control it.

Wilderness is an expression of this humble, respectful approach to Creation. Establishing a wilderness area is a cultural statement that some things need not be sold or consumed by human beings to have value in their own right.

Wilderness preservation is symbolic of society's recognition of values beyond humanity; that a natural part of the earth has value in itself, even if we may never find a utilitarian use for it; that humanity, though capable of destroying life, cannot recreate it. Roderick Nash has also pointed out that wilderness has social value in what it can teach us about the practice of restraint, self-sufficiency and contemplation. It is within wilderness that individuals learn that we are not full masters of the earth and that there are processes at work older than humankind itself, and far beyond our present knowledge.

Chapter Four

The History of Wilderness Protection in Alberta

Alberta has been a province since 1905. During that time, its population has skyrocketed from barely 100,000 to more than 2.5 million. Cities have grown, road networks have grown, energy production and consumption have grown – just about everything has grown except wilderness. In some parts of Alberta it has vanished altogether.

During most of Alberta's history, public support for wilderness protection has been given short shrift by a succession of growth-oriented governments. Provincial governments have consistently seen their role as being to promote resource development, with conservation and protection being costly and unnecessary frills.

Opinion polls, public hearings and growing support for conservation groups have shown strong public demand for wilderness since the late 1950s. From time to time, in response to specific issues or to concerted campaigns of public advocacy, governments have passed laws or enacted policies sympathetic to some aspects of wilderness protection. By and large, however, the history of wilderness protection in Alberta is a story of missed opportunities, betrayed hopes, and bitter disappointments. Even where visionary leadership led to the protection of wilderness areas in national parks or the Willmore Wilderness Park, subsequent compromises and political deals have undermined ecological integrity and reduced the wilderness value of these designated areas.

A Beginning of Protection: Birth of the National Parks

Canada's first national park – Banff – was established in 1885 in what would eventually become Alberta.

Thus, when Alberta became a province it had a head start as a national – indeed, a world – leader in the protection and conservation of wilderness. Leadership, however, was supplied by the federal government.

The new provincial government did not like the size of the early national parks, feeling that too much coal, timber and hydroelectric potential was locked up within their boundaries. In 1911, in response to these concerns, the federal government removed 18,494 km^2 from the three mountain parks. The public reacted with outrage and in 1917 two-thirds of the deleted land was restored to the parks.

However, as a result of negotiations leading to the 1930 transfer of jurisdiction over natural resources to the western provinces, Banff and Jasper again lost 1,570 km^2 of land. The province felt that the eastern edges of the parks held too much coal to leave it locked up in federal hands. Ironically, most of the area deleted from the national parks was designated off-limits to coal development by Alberta's 1976 Coal Policy, due to environmental sensitivity. Several of the Alberta Wilderness Association's long standing proposals for Wilderness Recreation Areas, in fact, enclose areas that were once national park lands.

By 1930, when jurisdiction over natural resources was transferred from the federal to the provincial governments, eight national parks had been set aside in Alberta:

Park	Established	Natural Region
Banff	1885	Rocky Mountain
Waterton Lakes	1895	Rocky Mountain
Jasper	1907	Rocky Mountain
Elk Island	1913	AspenParkland/ Boreal
Buffalo (Wainwright)	1913	Aspen Parkland
Wawaskesy	1914	Grassland
Nemiskam	1915	Grassland
Wood Buffalo	1922	Boreal/ Sub-Arctic

Three of these national parks were totally abolished in 1947. Buffalo, Wawaskesy and Nemiskam had originally been set aside to protect endangered populations of bison and pronghorn. The broader value of these national parks was not lost on Canada's first Commissioner of National Parks. J.B. Harkin wrote: *One feature of our Western Parks, both in the mountains an on the prairies, is that they are portions of the original North America.*

Two of the prairie and parkland parks were turned over to the military for training purposes. The third was made available for cattle ranching. Today, the prairie and parkland regions in which these "redundant" national parks existed are recognized as among the areas most in need of protection in Canada. More than half of Canada's endangered species are in prairie and parkland regions.

Where Alberta once held eight national parks, it now has only five. And of those, three are substantially smaller than they were originally. Early federal leadership was compromised by subsequent provincial tinkering.

The 1930 National Parks Act included a dedication clause that required parks to be both "preserved unimpaired" and made available for public "benefit, education and enjoyment." This dual mandate – preservation and use – contained enough ambiguity to allow the subsequent proliferation of roads, resorts, towns, utility corridors, ski areas and other facilities throughout the parks. Over the years there have been repeated conservation battles over proposals to expand or increase facilities in Banff, Jasper and other national parks, and the net result has been incremental losses of wilderness.

In 1989 the National Parks Act was amended. One major change was to clarify that where preservation and use are in conflict, protection of ecological integrity must be paramount. The amended Act also provides for legal designation of wilderness, a significant improvement over the previous situation in which wilderness was only recognized in policy. Wilderness boundaries have not yet been set for national parks in Alberta, leaving their protection dependent upon the whims of the federal Minister of Environment.

In 1992, the Western Region of the Canadian Parks Service, which includes all Alberta national parks except Wood Buffalo, adopted a policy that replaces the dual mandate with a single integrated mandate: national parks are to contribute to environmental sustainability by managing for ecological integrity and promoting environmental citizenship and a stewardship ethic. The effects of this policy change in stemming the incremental loss of wilderness in western national parks remains to be seen.

Meanwhile, however, the national parks are bursting with visitors. More conflict between developers and wilderness groups seems inevitable unless the demand for commercial development is met elsewhere and the total area devoted to wilderness is increased to meet current and future public demand.

Forest Reserves

Provincial forest reserves were one of the earliest conservation land use designations in Alberta. They now cover more than half of the province.

Conservation of forests was recognized very early in this century as an important priority, given the role of forests in producing water, wood and wildlife. Huge forest fires in the late 1800s gave added urgency to efforts to protect timber resources. The federal government designated several areas along the Rocky Mountains as forest reserves.

The Cypress Hills and Cooking Lake Forest Reserves were set aside in 1906. In 1911, the same year that the mountain national parks had their boundaries so dramatically reduced, the federal government established the 39,3371 km^2 Rocky Mountains Forest Reserve. The Lesser Slave Lake Forest Reserve was added to the list in 1913.

By 1928 there was an emerging possibility that wilderness protection might be accommodated in the management of forest reserves:
These forests are areas of nonagricultural land established primarily for the protection and reproduction of timber, for the protection of watersheds, and for the maintenance of conditions favorable to a continuous water supply and for the protection of animals, birds, and fish. The scenic and recreational values of these forests are now deemed to be resources of major importance.
Canada Dept. of Interior brochure, 1928.

In 1930, responsibility for the forest reserves was transferred to the province of Alberta. The potential for wilderness protection was never realized. Today, even though 51% of Alberta is within forest reserves[3] administered by the Alberta Forest Service, none is protected as wilderness. In fact, most forest reserve lands are now, or are intended to be, allocated to logging companies and other resource extraction enterprises. As early as 1966, all the forest reserve lands with merchantable timber in the southern Rocky Mountains (Bow-Crow Forest District) had been allocated to timber harvesting. This commitment was renewed in 1986.

Most of northern Alberta's forested land base was allocated to the pulp industry in the late 1980s, with vast Forest Management Agreements being signed before land use planning or wildlife and wilderness inventories had been completed.

Alberta's Forests Act contains no provision for wilderness protection. The Alberta Forest Service has no formal policy on wilderness, nor is wilderness recognized as one element of multiple use, or as a zone within the Eastern Slopes Policy. As a result, any inventory or assessment work dealing with wilderness values has been done by the Alberta Wilderness Association and Alberta Recreation and Parks, not by the government agency with control over the resources.

In British Columbia, as in the United States, their Forest Service has a formal obligation to identify, designate and manage wilderness areas. The Alberta Forest Service has no wilderness mandate; it manages public lands for commodity uses.

The 1990 Report and Recommendations of the Minister's Expert Review Panel on Forest Management in Alberta, resulting from public concern over vast forest allocations to the pulp industry, contained a series of recommendations that, if implemented, may improve Alberta's situation. The panel made seven recommendations specifically focussed on the need to complete a system of protected areas in Alberta's forest reserves, all of which were accepted by the Alberta Forest Service. However, many options have already been lost with the signing of binding Forest Management Agreements with logging companies.

Willmore Wilderness Park

A milestone in Alberta's history occurred in 1959, when the first wilderness area outside of the national parks was set aside near Grande Cache. This was the first tangible acknowledgment by an Alberta government that wilderness had sufficient public value to be formally protected.

Renamed in 1962 as the Willmore Wilderness Park, the park does not exclude traditional recreational uses such as horse travel, fishing and hunting that are excluded in Alberta's three wilderness areas (see below).

[3]The forest reserves remain as public land that cannot be settled. Collectively, they are known as the Green Zone.

The Willmore Wilderness Park Act, however, has weaknesses. One is that development, industrial use and boundary changes need not be approved by the Alberta Legislature as a whole, but only by the Cabinet. There is no requirement for debate or public disclosure of proposed changes.

In fact, twice since 1959 the provincial Cabinet of the day has deleted areas from the Willmore to allow coal mining. In 1963 and again in 1965 areas totalling 17% of the original park were deleted. These included Grande Mountain, Mount Stearn, and the Rock Lake area.

Bighorn sheep and elk from the Smoky River, Roddy and Malcolm Creek areas lost much of their valuable winter ranges as a result of these deletions, as did mountain caribou that summer in Jasper National Park and the Willmore. Caribou populations have crashed in this area for a variety of reasons related to resource development, and the caribou is now a threatened species in Alberta.

While much land remains in the Willmore, the lands that were removed were of critical ecological importance and their loss has impoverished the surviving portions of the Willmore.

In 1979, the Alberta government recognized that efforts to make Grande Cache's economy viable through coal mining and forestry were failing. Even though these earlier projects had jeopardized wildlife populations in the area and compromised the wilderness integrity of the Willmore, the government proposed to launch a new effort to bring economic life to the region by building roads, lodges and downhill ski areas in the park.

More than 40,000 Albertans rallied to the defense of their beloved Willmore Wilderness Park, signing one of the largest public petitions ever received by the provincial government. The development scheme was abandoned, but the boom-and-bust nature of the neighbouring town of Grande Cache ensures that there will be further attempts to cash in on the natural resources of the Willmore.

It is ironic that Grande Cache, the root of the development threats to the Willmore Wilderness Park, is a single-industry town that was built at public expense on lands withdrawn from the Willmore. Indeed, the one sustainable element of the town's economy is the recreation, hunting and outfitting industry that relies on the wilderness integrity of the park.

The Wilderness Areas Act

Alberta's second major effort to respond to public demand for wilderness protection began in 1961.

Two wilderness areas – the 1,259 km^2 White Goat and 412 km^2 Siffleur – were set aside in January 1961 under the Forest Reserves Act, an awkward undertaking since the legislation was not designed to accommodate this. Regulations prohibiting motorized use followed in 1962. In 1965 the government redesignated the wilderness areas under the Public Lands Act, trying to find a better legislative fit.

Two years later, a further wilderness area, also in the Rocky Mountains, was established. The 152 km^2 Ghost River Wilderness Area was created under yet a third piece of legislation, the Provincial Parks Act. With the Willmore Wilderness Park Act, this meant that four wilderness areas were now protected under three different pieces of legislation, none of which were designed with wilderness protection in mind.

The government recognized the need for specific wilderness legislation in the face of growing public pressure for protection of ecological benchmarks and wilderness. There was broad public concern for the environment as a whole in the face of rapid resource exploration and development in Alberta's Eastern Slopes. In 1970, the Minister of Lands and Forests introduced Bill 106, An Act Respecting Wilderness Areas.

Bill 106 allowed the prohibition of fishing, horseback riding and hunting within designated wilderness areas. This sparked a widespread and predictable public

outcry, since most of the supporters of wilderness preservation were people who enjoyed those very activities in wilderness settings. After the Bill was tabled, the government held public hearings in major Alberta centres during the summer of 1970.

The public hearings were well attended, and 130 written briefs were formally presented. In spite of strong public consensus in favour of large recreational wilderness areas, the government finally introduced a revised Wilderness Areas Act which:

- set a size limit of no more than that which could be walked across in a day (373 km^2)
- prohibited the use of horses, fishing, hunting and the picking or removal of any natural object (including even berries and mushrooms)
- asked an advisory committee to report on "which portion" of the White Goat, Siffleur and Ghost River Wilderness Areas should be protected under the Act.

Unlike the previous Bill 106, this revised wilderness Bill did not require an annual meeting of the Advisory Committee on Wilderness Areas (ACWA) nor did ACWA retain its power to call public hearings on wilderness areas. Debate in the Legislature revealed that some politicians specifically referred to and understood the wilderness areas to be ecological reserves; a benchmark or research area where natural resources and processes would be protected from any disturbance by humans.

Through early 1971, elected representatives received a flood of letters from the public about the size restriction and the prohibition on horses, fishing and hunting. Wilderness advocacy groups like the Alberta Wilderness Association called for removal of the limit on the size of designated wilderness areas and the regulation, rather than prohibition, of recreational uses like horseback travel and hunting.

The Wilderness Areas Act, including the restrictive clauses regarding size and prohibited recreational uses, was passed in April 1971. The effect of the prohibition on some forms of traditional wilderness recreation within Alberta's Wilderness Areas Act was outlined in the Calgary Herald:

... because of the ceiling on size, ban on hunting, fishing and horse use, there is less wilderness protection because interest groups will not push for favorite areas to be included.
(Calgary Herald, 1971)

In the midst of the negative public reaction to the restrictive clauses in the Wilderness Areas Act and before any areas had been designated under it, the Social Credit government was defeated in the 1971 provincial election in favour of the Progressive Conservative party under the leadership of Peter Lougheed.

After the election, the newly-appointed chairman of ACWA turned down public requests to propose amendments to the Wilderness Areas Act and boundaries of the White Goat, Siffleur and Ghost River Wilderness Areas. In November 1972, the new government passed a Bill amending the Wilderness Areas Act to include the White Goat, Siffleur and Ghost River Wilderness Areas, and to remove the size limit. The White Goat wilderness, however, was reduced by two-thirds of its size upon inclusion in the Wilderness Areas Act, and all recreational use of the new wilderness areas, other than foot travel, was prohibited.

During debates in the Legislature on the 1972 amendment Bill, the government defended their disregard of public expectations by stating that the objectives of the Wilderness Areas Act and Willmore Wilderness Park Act were quite different, and arguing that the national parks in Alberta would meet the need for wilderness recreation. As with the previous government and the previous wilderness Bills, it became clear that "*wilderness areas*" were understood by several Members of the Legislative Assembly to be ecological reserves.

In effect the 1971 Wilderness Areas Act addressed only one category of protected areas – rigidly protected ecological reserves – and fell short of adequately

addressing the cultural, recreational and economic dimensions of wilderness.

A number of people continue to view Alberta's Wilderness Areas Act as a "vindictive" Act deliberately designed to quash public support for the legal protection of wilderness. Certainly the corruption of the original concept of wilderness had the effect of souring some of the public on the concept of wilderness protection: ther term became synonymous with elimination of virtually any kind of use.

To avoid confusion between areas protected under this flawed Act and the broader category of wildland protection most interested Albertans advocate, conservation groups now call for the establishment of wildland recreation areas or recreational wilderness, in addition to ecological reserves and the present wilderness areas.

No additional wilderness lands have been given protection under the Wilderness Areas Act since the inclusion of the initial three areas in 1971. Two-thirds of the White Goat Wilderness Area was deleted at that time, and these deleted areas have never had any form of protection restored to them. Nor has any legislation been enacted to allow wildland recreation areas, or recreational wildernesses, to be established in Alberta.

The Environment Conservation Authority Hearings

The 1970s saw a vast growth in recreational use of Alberta's surviving wildlands, and a growing public clamour for protection of more of these lands and waters from industrial exploitation. In 1973 the provincial government placed a near total moratorium on further development of 90,650 km^2 of the much loved Eastern Slopes region. The Environment Conservation Authority (ECA), an arms-length government advisory body, was commissioned to hold public hearings into land use and resource development in the Eastern Slopes region.

The Eastern Slopes include all the forest reserve lands from the United States area along the foothills north to Grande Prairie. This region contains the headwater drainages of the Oldman, Bow, Red Deer, North Saskatchewan, Athabasca and Smoky Rivers.

The previous decade had seen the Eastern Slopes opened up at an incredible rate as oil companies raced to find black gold, leaving a legacy of ruined creek beds, bulldozed forests and other environmental damage. Each year, as Albertans ventured out to their favorite fishing and hunting areas, they found new damage to the landscape. Recreational use of these areas was skyrocketing. The public hearings were a response to a growing clamour for better land use controls and environmental regulations, in addition to protection of wilderness areas.

The ECA held heavily attended hearings across the entire province. Conservation groups submitted detailed proposals for wilderness protection: the Alberta Wilderness Association requested 10 wildland recreation areas and the Wild Kakwa Society requested a Kakwa Wilderness Area.

The total area of land requested for wilderness designation amounted to 7% of the Eastern Slopes region. Added to the existing wilderness areas and Willmore Wilderness Park,they would have protected 15% of the Eastern Slopes while leaving 85% open to industry and motorized recreation.

The wilderness proposals were supported by a broad cross section of interested parties, including municipal governments, chambers of commerce, recreation groups, politicians and conservation groups. A public opinion poll in 1973 found that 65% of Albertans supported ... *wild land areas...where most outdoor activities including hunting are allowed, but where motorized vehicles and natural resource industries are forbidden.*

When the ECA released its report in 1974, it recommended that wildland recreation areas be established in the headwaters of each of five river basins. These would include the Elbow-Sheep headwaters and range north to the Kakwa watershed in the Smoky River area.

In a subsequent 1979 ECA report on forestry in Alberta, there was further recommendation of a wildland recreation area in the Western Swan Hills, as well as a wilderness area in the boreal forest region to the north.

In response to the ECA recommendations on the Eastern Slopes, the Minister of Environment released a policy statement in 1975 which declared:
Development of the Eastern Slopes will adopt a Multiple-Use Policy as the basic concept. This will ensure that while some carefully selected projects will proceed in certain areas, vast tracts of land will be kept in natural and wilderness state. A conservative estimate is that a minimum of 70% of the Eastern Slopes Region will be maintained in present natural or wilderness areas. This represents an area in excess of 15.5 million acres ...

The prospect for continued survival of wilderness, at least in the Eastern Slopes, had never appeared better. In October 1975 the Minister of Environment went further, saying:
Their [ECA] fifth major recommendation – certain land should be reserved for a limited use or a limited combination of uses such as wildland recreation areas, provincial parks and wilderness areas... more sensitive areas should be protected by limited access and I think I can say that we have accepted that recommendation 100% and I expect during the next couple of years to see various pieces of legislation and regulations introduced that will bring protection to, and definition of those kinds of areas.

The legislation, however, never materialized.

A moratorium on development in the 11 wilderness areas proposed during the Eastern Slopes hearings fell apart when most of the proposed Upper Oldman Recreational Wildland – the Oyster, Pasque and Straight Creek valleys – was signed away to a logging company that same year.

The government nevertheless did not close the door on wilderness protection. Instead, it agreed to: *...consider whether or not areas of this nature should be identified and defined as a class of Provincial Parks when the Park classification system is developed.*

The proposal to protect wilderness as a class of provincial park has never been implemented.

The Eastern Slopes Policy

In 1977 hopes for wilderness protection that had been raised through the earlier hearings were finally dashed. The government released a detailed Eastern Slopes Policy that year which made no reference to recreational wilderness or to the need to protect ecologically viable units of land.

Instead, the new policy zoned the Eastern Slopes on the basis of different resource capabilities. Zone 1 – the most restrictive category – was defined as the Prime Protection Zone. Most uses were to be restricted on these highly-fragile landscapes, but even so, many permitted uses were incompatible with wilderness protection. Zone 1 included the timberline and alpine regions along the mountaintops, but did not extend down to the more productive and desirable valley bottoms.

Important wildlife ranges were categorized as Zone 2, called the Critical Wildlife Zone. This zone included several valley bottoms and mountain slopes but also allowed a wide range of industrial activities.

That wilderness was not recognized as a valuable entity in its own right, but as merely suitable for recreational use, became clear in a letter from the Deputy Minister of Energy and Natural Resources to the Alberta Wilderness Association in 1980:
In developing The Policy for Resource Management of the Eastern Slopes, the association's proposals were given due consideration in the identification of lands to be included in the Prime Protection Zone. It was felt that a Prime Protection designation would recognize the association's interests, but would also serve a much wider spectrum of interests than would a specific dedication to Wildland Recreation exclusively.

Under the new policy, most of the proposed wildland recreation areas and wilderness areas became a jigsaw puzzle of Zone 1, 2, 4 and 5 lands. Zone 4, called the Multiple Use Zone, allowed mineral development, oil and gas, forestry and motorized vehicles.

With the release of the 1977 Eastern Slopes Policy, what remained of the moratorium on development was lifted. The sounds of heavy equipment and the tracks of motorized vehicles again filled wilderness valleys.

More detailed land use plans were developed in subsequent years, based on the Eastern Slopes Policy. Since the policy did not recognize wilderness as an important land use with a broad range of public and intrinsic values, government planners have repeatedly advised conservation groups that they will not accommodate wilderness in planning programs under the Eastern Slopes Policy. At best, some consideration has been given to small ecological reserves and natural areas, and to accommodating outdoor recreation in areas managed for resource extraction.

Management plans have now been completed for almost all of the Eastern Slopes. Zone 1 is confined almost exclusively to the rock and alpine vegetation of the mountain peaks, especially south of the Bow River. No areas have been identified for legal designation and preservation as wilderness, nor have any provincial parks been established, aside from the earlier designation of Peter Lougheed Provincial Park. Only 14 years earlier, the government's "conservative estimate" was that 70% of the Eastern Slopes would be retained in natural or wilderness areas.

In 1982 the Eastern Slopes Policy was amended, this time without public input[4]. Restrictions on development in Zone 1 were softened, and a statement was added to the effect that development proposals that conflicted with zoning restrictions would still be considered on a case-by-case basis.

A Review and Analysis of Wilderness Legislation in Alberta concluded:
Examination of the document leads one to question whether implementation of the Eastern Slopes Policy can ever satisfy the objectives of protection of wildland recreation areas.
(Smart, 1983)

Public Lands Policy

Much of Alberta's public lands lies outside the forest reserves, in the more heavily settled White Zone of central and southern Alberta. These lands, mostly in the foothills, parkland and grasslands, are administered by the Public Lands Division. There are several outstanding natural landscapes and rivers in these regions that warrant protection as wilderness.

Public lands in the White Zone are most commonly leased to ranchers and corporations for seasonal livestock grazing. Some southern leases have histories extending back to the late 1800s, and as a result some ranchers have come to treat these public lands as private property, even prohibiting hikers and other recreationists from using them. Well managed cattle operations on many of these leased areas have sustained their ecological diversity and natural landscape quality, but water development, cross-fencing, oil and gas development, vehicle tracks and other forms of disturbance have reduced their wilderness value.

In the late 1960s, in recognition of public demand for better conservation of public lands, the Public Lands Division began to set aside small natural areas where other uses were to be regulated to protect natural values. However, no resource management policy similar to the Eastern Slopes Policy exists to guide integrated resource planning for public lands outside of the Eastern Slopes region. As a result, there is no focus for addressing protection of wilderness in the planning and use of these public lands.

The grassland and parkland natural regions administered by the Public Lands Division are the most populated and disturbed in Alberta, with very few options remaining to protect wilderness. Even options for setting aside smaller ecological reserves or natural areas are limited.

In many ways, the need for wilderness policy and planning is most urgent, and will prove most challenging, in the grassland and parkland regions of the province.

[4]This reflects a weakness of policy. Legislation (laws) can only be amended in the Legislature, although some weak laws can be amended by Cabinet. Policy, on the other hand, can be changed without any public debate or review in the Legislature.

Provincial Parks

Repeated public demands for amendments to the flawed 1971 Wilderness Areas Act were rejected by the provincial government throughout the 1970s. Finally, in 1976, the government proposed to accommodate the need for recreational wilderness within an expanded provincial parks system. This has not yet happened.

The establishment of Peter Lougheed Provincial Park, formally designated a wildland park in 1977, offered protective status to a small wilderness area surrounding the Kananaskis Lakes hydropower reservoirs. In 1990, however, even this protection was called into question by a government decision to allow a permanent ski-training camp to be built on a glacier in the Prime Protection Zone of the park.

Through the early 1980s Alberta Recreation and Parks engaged in a detailed systems planning and policy development process. The public was extensively consulted and, in 1986, an enlightened and visionary draft policy statement was released by the department.

In the draft, Alberta Recreation and Parks accepted a leadership role in advocacy, research, education and management, all focused on completing a system of a protected areas to safeguard Alberta's natural heritage, including ecological reserves and wilderness. This policy document was completed and approved in 1988 as Foundations for Action: Corporate Aims for the Ministry of Recreation and Parks, by the Minister of Alberta Recreation and Parks.

Although it was printed, the document did not receive Cabinet approval. It was shelved in 1989.

At present time, Alberta's provincial parks system consists primarily of a variety of small roadside properties with developed, road-accessible camping and day use facilities. Kananaskis Country, a large area encompassing most of the headwaters of the Kananaskis, Spray, Jumping Pound, Elbow, Sheep and Highwood Rivers, is managed by Alberta Recreation and Parks. However, a wide range of resource extraction activities and mechanized recreation is allowed in the area. A recent addition to Writing-on-Stone Provincial Park adds a wilderness component, which will function essentially as a strictly protected ecological reserve.

What About Wild Rivers?

Alberta's Water Resources Act originated in the 1890s as the Northwest Irrigation Act. It treats water essentially as a commodity that only has value when extracted from a river or lake and put to work. Other legislation allows the government to authorize the use of Alberta rivers for disposal of pollution. There is no Alberta legislation or policy that provides any protection for our rivers.

The current water policy for Alberta – Water Management Principles for Alberta – specifies priorities for water allocation. Domestic, industrial and agricultural (irrigation) uses are the highest priorities. Conservation and fish and wildlife are the lowest. The policy also approves the use of a river's "assimilative capacity" for diluting pollution.

This policy has resulted in the ongoing loss of our most wild and scenic rivers.

Parts of some prairie rivers like the Bow, St. Mary's and Oldman run virtually dry some summers since their water is removed for irrigation of field crops. Cottonwood forests along some southern rivers are dying because of upstream dams and over exploitation of their flow. Northern rivers like the Wapiti, Smoky and Athabasca are severely fouled by pulp mill effluent, which makes them smell like open sewers.

Some of the most dramatic wilderness landscapes and most rewarding wilderness recreational experiences are along our rivers. From the point of view of cultural heritage, rivers play a key role since they were the focus of native settlement and early travel by fur traders and settlers. The richest and most critical wildlife habitats are along rivers, where abundant water, diverse vegetation and topographical variety create rich ecological mosaics.

In 1978, growing government and public concern across Canada over the rapid disappearance of rivers in their natural state resulted in a Federal-Provincial Parks Ministers' Conference calling for a cooperative program to identify and protect outstanding examples of Canada's river heritage.

In recognition of the ecological, historic and recreational importance of many rivers, a Canadian Heritage Rivers Task Force comprised of provincial, territorial and federal government representatives completed the framework and guidelines for the Canadian Heritage Rivers System (CHRS) in 1981. Alberta participated in the development of this framework. However, upon completion of the framework and guidelines, the Alberta government refused to participate in the program:
While the concept of a Canadian system of natural, historical and recreational rivers is supportable in principle, the designation of an Alberta river or reach of river as a Heritage River would raise expectations that other current and future uses would not be considered. Given the importance of water resources to Alberta for domestic, municipal, agricultural, hydro-power and industrial supplies in addition to recreation use, it is in the best interest of Alberta to plan and manage its water resources for multi-purpose use.
Letter to the Canadian Heritage Rivers Board from Assistant Deputy Minister, Alberta Environment, 1983.

Continued public controversy about over exploitation of southern rivers and increasing water pollution came to a head in the late 1980s with the construction of the Oldman River Dam and the approval of several bleached-kraft pulp mill projects along the Peace, Wapiti and Athabasca Rivers.

In 1989 a major conference on Alberta's rivers – Flowing to the Future – was held at the University of Calgary. Delegates from irrigation districts, industry, conservation groups and municipal governments, as well as a cross section of concerned individuals, unanimously recommended that Alberta join the Canadian Heritage Rivers System. They also proposed a series of water policy reforms that would protect the health and recreational value of Alberta's rivers. In 1991 another river conference was held, this time in Edmonton. Again, similar recommendations were made.

A number of encouraging initiatives took place in the early 1990s. Alberta Environment has begun work to determine flows on southern Alberta's dammed rivers as a preliminary to ensuring guaranteed minimum flows. The Alberta Cabinet is reviewing a recommendation that the province join the CHRS. The Water Resources Act is being amended through a process of public consultation.

However, the situation down by the riverside remains unchanged: there is still no reach of any Alberta river protected in its wild, natural state; northern rivers still stink; southern rivers still run dry.

Chapter Five

Legislation, Policy and Wilderness Protection

... if the Crown Lands of Canada are not explicitly protected by legislation it is naive to suppose that they will remain unexploited and without road access. (Dunster, 1988).

If Albertans wish to have as part of our common future a comprehensive system of protected wildlands, including large wilderness recreation areas, how might we go about getting them?

Do we need new laws? Can we rely on land use policies?

A review of Alberta's existing legislation suggests that we have all the pieces we need right now. New laws are not needed, just clear enabling legislation, better policy, and political will.

The following sections summarize the existing laws, policies and programs that have a bearing on wilderness protection in Alberta. A comprehensive analysis is beyond the scope of this discussion paper, but major strengths and weaknesses are reviewed. It is important to keep in mind the difference between legislated protection and protection under policy or administrative programs. Legislated protection carries the force of law and can only be removed by legislative action. Policy and programs are much less secure and can change overnight.

The Constitution Acts of 1867 and 1982, and the Natural Resources Transfer Act of 1930, gives the Province of Alberta exclusive jurisdiction over public or Crown lands within Alberta's boundaries. The only exceptions are federal Crown lands and Indian reserves. There are also some outstanding aboriginal land claims in Alberta. As a result, most new protected areas will likely be established under provincial laws and policies.

Federal

National Parks

Alberta has five National Parks: Banff, Waterton Lakes, Jasper, Elk Island and Wood Buffalo. These total 54,084 km^2 or slightly over 8% of the area of the province.

Section 4 of the National Parks Act of 1930 says:
The parks are hereby dedicated to the people of Canada for their benefit, education and enjoyment, subject to the provisions of this Act and the Regulations, and such parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations.

This "dual mandate" of recreation and preservation has meant the need for constant public vigilance to head off overdevelopment and inappropriate use in national parks. The Parks Canada Policy of 1979 finally ended the debate as to the priority for national parks. The 1979 policy clearly states that:
Parks Canada will make protection of heritage resources its primary consideration. Ecological and historical integrity are Parks Canada's first consideration and must be regarded as prerequisites

against use. ... natural resources within national parks will be given the highest degree of protection to ensure the perpetuation of a natural environment essentially unaltered by human activity.

Through this policy, the Canadian Parks Service also established a zoning system for national parks. Wilderness is one of five zones outlined in the policy, and the definition limits development to primitive facilities while also limiting the kinds and amount of public use.

On August 18, 1988, final assent was given to the amendments to the National Parks Act, resulting in what appears, from a wilderness point of view, to be a much stronger Act. Section 5.1.2 of the amended Act reads:
Maintenance of ecological integrity through the protection of natural resources shall be the first priority when considering park zoning and visitor use in a management plan.

This leaves no doubt as to the priority for national parks. Just to be sure, the Act requires the Minister to table management plans for all parks within five years. These plans must include zoning and resource protection guidelines.

Wilderness protection in national parks is also strengthened in that wilderness no longer exists just in policy; it is also provided for by the Act. The National Parks Act now states that the federal Cabinet *...may, by regulation, declare any region of a park that exists in a natural state or is capable of returning to a natural state to be a wilderness area.*

Notwithstanding the strengthened position of wilderness in the Act, there is cause for concern. Although defined in the 1979 policy, wilderness is not defined within the Act. In the absence of a definition, precise application of the law is impossible.

A more subtle but worrisome concern is that the legal designation of wilderness serves essentially to shrink the parks. In effect, the role that the national parks as a whole were to serve will shrink to those areas legislated as wilderness within the park. Other zones within the national parks now risk being seen as open for business and over the long term, erosion of park preservation values could continue.

Canadian Heritage Rivers

The Canadian Heritage Rivers System (CHRS) is a cooperative program involving federal, territorial and provincial governments. It does not provide legislated protection to rivers.

Rivers are under provincial control, except where they flow within national parks or are covered by Indian treaties. Under CHRS, a participating government conducts a survey of the rivers under its jurisdiction to identify any reaches that have ecological, historical or recreational values of national significance.

On the basis of the survey, the province submits a recommendation to the Canadian Heritage Rivers Board. If the Board (which has an appointed member from each participating government) accepts the recommendation, then the river is nominated to join the system. Then, when the province has completed a management plan that spells out how the river's nationally important attributes will be protected, and the Board has accepted the plan, the river is formally designated.

Under this system, then, the province retains ownership and jurisdiction over the river. For its part, the federal government encourages public understanding, provides financial support and assists the provinces in carrying out appropriate studies and research. The CHRS secretariat is administered by the Canadian Parks Service.

The major flaw in the program is that, if a participating government fails to live up to its commitments to protect a designated Canadian Heritage River, the only thing the Board can do is to de-list the river. The program does not require a plan to address the threats and restore the river. It works on political and moral suasion, rather than on the basis of legal clout.

Alberta and British Columbia are the only provinces that have not signed an agreement with the federal government to protect heritage rivers. Alberta has no heritage river program of its own.

Indian Reserves

Some Indian reserves in Alberta include large tracts of land and river reaches that remain in a relatively natural condition. Because of their unique status, these wild areas cannot legitimately be considered protected wilderness. Band councils can, however, choose to retain these sites in their wilderness state so as to maintain the foundation of indigenous cultures and help in completing a provincial system of protected wilderness. The spiritual ties of indigenous peoples to the natural world suggest the opportunity for such tribally designated and protected wilderness within Indian reserves. In the U.S., several tribal wilderness areas, like the Mission Mountain Tribal Wilderness, have been established for religious and cultural reasons.

Treaties give natives ownership of rivers running through Indian reserves. This affords band councils an opportunity to contribute to the protection of wild rivers by intervening legally to ensure that their river reaches are clean and retain natural flows. In fact, bands may consider establishing their own water legislation to protect their waters as has already been done, for example, by the Shoshone and Northern Arapaho Tribes in the U.S.

Military Reserves

The Government of Canada influences the land use of three large military reserves in Alberta; CFB Suffield, CFB Wainwright, and the Cold Lake Air Weapons Range. Large parts of these reserves, although not free from human impact, are retained in a relatively natural condition. The Suffield Military Reserve is of international importance, as it includes the largest piece of native grassland left in Alberta. Portions of this area would undoubtedly have been cultivated were they not included in the military reserve and the earlier Wawaskesy National Park.

Recently, a portion of this area was formally designated a national wildlife refuge. Public recreation is not permitted except on an extremely limited basis.

With the winding down of the Cold War, the opportunity exists to convert military training areas to wilderness conservation areas. This would help meet conservation objectives in the grassland and parkland natural regions without threatening existing land uses in other parts of those regions.

Biosphere Reserves and World Heritage Sites

Canada has signed two international agreements that play an important role in the management and preservation of wild Alberta: the Man and the Biosphere Program and the World Heritage Convention. Neither of these programs offers legislated protection to wilderness.

The Man and the Biosphere Program (MAB) was launched in 1970 by the 16th General Conference of UNESCO. MAB is primarily concerned with designating representative ecosystems of international significance. In Alberta, Waterton Lakes National Park is designated as a biosphere reserve. There, the present 526 km^2 national park is too small to protect the ecosystem it is part of. If the protected core is to remain ecologically viable over the long term, it will only be possible through integrated land-use management in the surrounding area which focuses on sustaining the whole ecosystem. While the biosphere reserve designation carries no legal weight in ensuring this happens, it helps to create awareness and a sense of global significance.

The World Cultural and Natural Heritage convention adopted by UNESCO in 1972 is intended to ensure the identification, preservation, and interpretation of the world's most significant cultural and natural heritage. World Heritage Sites include the Rocky Mountain Parks and Wood Buffalo National Park under the natural heritage category and Dinosaur Provincial Park and Head Smashed In Buffalo Jump under the cultural category.

By agreeing to have sites listed under these two programs, the governments responsible for the sites make a commitment to the world to protect their integrity. In return, governments receive the international attention and prestige associated with designation. From a wilderness perspective, this adds another layer of protection, strengthening the odds for long term preservation of the site. It is much more difficult for authorities to make any decision that might jeopardize the integrity of a site if they realize that the entire world is watching.

Canada's Green Plan

In 1991, the Government of Canada adopted a wide ranging policy on the environment entitled Canada's Green Plan. As part of this policy, the government committed itself to completing a national parks system by the year 2000. Most of the gaps in the national parks system occur outside Alberta.

The government also endorsed the goals of the Endangered Spaces Program of the World Wildlife Fund, including a specific objective of setting aside at least 12% of Canada as protected wilderness. The federal contribution to this goal, once the national parks system is completed, will be 3.6%. The remainder is to be the responsibility of the provinces and territories.

Unanimous agreement is uncommon in Canada's Parliament. Nonetheless, on June 5, 1991, the following motion was passed unanimously:
... That, in the opinion of this House, the government should consider the advisability of preserving and protecting in its natural state at least 12 per cent of Canada by working co-operatively with the provincial and territorial governments and assisting them to complete the protected area networks by the year 2000.

In adopting a strong advocacy role for protection of wild areas, the federal government's Green Plan may add greater weight to wilderness protection efforts in Alberta. It also serves as an impetus for cooperative federal, provincial, and conservation group action on behalf of wilderness.

The weakness of the Green Plan lies in its political vulnerability. Funding has been reduced twice since the policy was introduced.

Provincial

The Public Lands Act

The Public Lands Act guides the overall management of public or Crown land in Alberta. The Act gives the Minister of Forestry, Lands and Wildlife the authority to carry out planning for public land and to: *...classify public lands and declare the use for which he considers them to be adaptable.* The Act is a valuable tool for overall land use planning, which could include wilderness preservation. It can also be used to set management guidelines for wilderness lands until they can be legally designated.

The Eastern Slopes Policy and the various integrated resource plans developed under that policy are examples of how the Public Lands Act can be applied. From a wilderness perspective, the Prime Protection Zone's list of permitted and restricted uses in the original 1977 policy came close to reflecting wilderness values. The Prime Protection Zone designation was a way of telling resource managers and industry that the intrinsic natural values of these lands took precedence over resource development.

However, as policy only and not law, zones and permitted uses are easily changed. The 1984 revisions of the Eastern Slopes Policy offer graphic proof of how this sort of protection under the Public Lands Act can be arbitrarily removed. Without legal designation of these zones and without specific regulations to implement the policy, the Prime Protection Zone is subject to considerable industrial and non-industrial use. For example, although the policy precludes the use of off-highway vehicles in the Prime Protection Zone, there is no legal basis to enforce the prohibition. Off-highway vehicle use continues today within much of the Prime Protection Zone, along with the attendant environmental damage, noise and disturbance.

In 1986 the government used the Public Lands Act to declare the Bighorn Wildland Recreation Area. The declaration is quite specific and is in keeping with many wilderness values. Again, unfortunately, this is only a declaration of intent. The boundaries are not legally established and regulations are not in place to provide a legal basis to control inappropriate use and preserve the area as wilderness.

Wilderness Areas, Ecological Reserves and Natural Areas Act

WHEREAS the continuing expansion of industrial development and settlement in Alberta will leave progressively fewer areas in their natural state; and

WHEREAS it is in the public interest that certain areas of Alberta be protected and managed for the purposes of preserving their natural beauty and safeguarding them from impairment and industrial development; and

WHEREAS to carry out these purposes for the benefit and enjoyment of present and future generations it is desirable to establish certain kinds of areas and reserves and to provide varying degrees of protection to those areas and reserves...
Preamble, Alberta Wilderness Areas, Ecological Reserves and Natural Areas Act.

In 1981, the Wilderness Areas Act was amended to include "Ecological Reserves and Natural Areas". Natural areas are administered by Alberta Forestry, Lands and Wildlife. Ecological reserves and wilderness areas are the responsibility of Alberta Tourism and Alberta Recreation and Parks. The wilderness areas section was not amended to more adequately define and protect wilderness.

The Act, on first glance, seems to be the ideal tool for designating, protecting and managing wilderness in Alberta. However, the Act has a missing piece – it fails to define wilderness. Perhaps because of its evolution,the Act is a complex piece of legislation that is hard to decipher, making its full potential and limitations unclear.

The three wilderness areas established under this Act – White Goat, Siffleur and Ghost River – receive a high degree of protection. They are established by legislation, permit visitor use on foot and preclude industrial development of any type. These areas provide the highest degree of ecological protection, and also satisfy the most restrictive end of the outdoor recreation spectrum, appealing to people who are content to walk through scenic wildlands.

However, the wilderness area provisions of the Act preclude any hunting, fishing, or use of horses and consequently do not meet the full range of public demand for wilderness, particularly from a cultural perspective. People who wish to pursue traditional wilderness recrea-tions argue that these wilderness areas are in fact ecological reserves. Ecological reserves are an essential part of the protected areas spectrum, but they do not represent wilderness areas under the 1973 IUCN definition.

One option would be to amend the Act to specifically define wilderness and to accommodate not only the existing wilderness areas but also the Willmore Wilderness Park and similar wildland recreation areas as distinct from the kind of wilderness areas already provided in the Act. In these Wildland Recreation Areas, management plans would provide the basis for regulations specific to each area, setting the kinds and level of recreational and cultural activities permitted.

The definition of Natural Areas under the Act is very broad. Another option which would not require any new amendments would to establish recreational wilderness areas as natural areas under Section 12.1 (1) of the Act which says:

The Lieutenant Governor in Council may, in order to

- *(a) protect sensitive or scenic public land from disturbance, and*
- *(b) ensure the availability of public land in a natural state for use by the public for recreation, education or any other purpose,*

by regulation designate any area of public land as a natural area.

To date, more than 260 natural areas have been designated, averaging only 4 km^2 in size. The Beehive Natural Area at 56.6 km^2 and the Milk River Natural Area at 55 km^2 (both can easily be walked across in a day) are the largest natural areas. There is no legislative reason why larger natural areas could not be designated and managed as wilderness. Logically, the Bighorn Wildland Recreation Area could become a natural area under this Act in order to give it some legal status. Unlike wilderness areas designated under the Act, prohibitions are not applied to natural areas. At the time of regulation, the Minister can specify the permitted and prohibited activities, and in doing so make specific natural areas totally compatible with wilderness preservation.

A fundamental flaw in trying to set aside wilderness as natural areas is that protection of natural areas is at the discretion of the Minister. He or she can potentially approve the whole range of tourism, recreation and industrial activities allowed for under the Public Lands Act or the Forests Act.

This is weaker protection than even the Willmore Wilderness Act which at least requires Cabinet assent to changes. Relying on the natural areas provisions of this Act would provide, at best, a tenuous land bank for holding wilderness until it can be protected under stronger legislation.

Willmore Wilderness Park Act

Few names are as synonymous with wilderness in Alberta as Willmore. The Willmore Wilderness Park Act is unique in that it was created specifically for the establishment and management of one park. Although the Act is by no means a model piece of legislation, many wilderness recreation enthusiasts view Willmore itself as the best Alberta example of an area dedicated to addressing the full range of wilderness values. The Willmore Wilderness Park Act does not restrict hunting, fishing, or the use of horses. Instead, the regulation of these activities is left to the park's management strategy. The Act, in fact, precludes almost nothing. One must look more to the intent specified in the Act, rather than the detail, for interpretation. The Act states that:

The Park is dedicated to the use of the people of Alberta for their benefit, education and enjoyment, subject to this Act and the regulations, and shall, by the management, conservation and protection of its natural resources and by the preservation of its natural beauty, be maintained for the enjoyment of future generations.

Based on this statement of intent, development or industrial use cannot be permitted except by establishment of a specific regulation under the Act. Mines and minerals, however, are exempt. "Nothing in this Act affects the administration and control of mines and minerals within the area of the Park." The Act also gives the Alberta Cabinet (Lieutenant Governor in Council) the authority to increase or decrease the size of the park without public debate or discussion in the Legislature.

Given the lack of real protection afforded by the legislation, how well has the government lived up to the statement of intent? This has and will continue to be a matter of considerable debate. On the one hand, lands have been withdrawn twice from Willmore to enable development of coal interests in the vicinity of Grande Cache. On the other hand, coal interests west of Rock Lake have been reacquired by the Crown to protect Willmore. Also on the positive side, both the Eastern Slopes Policy and Alberta's Coal Development Policy show Willmore as being out-of-bounds for industrial development.

Given the growing scarcity of wilderness, long standing public vigilance over Willmore, and the history of boundary changes that have undermined the ecological viability of the park, there seems to be no reason not to strengthen the Act and ensure full legal protection of Willmore.

Provincial Parks Act

3. *Parks shall be developed and maintained*

   (a) for the conservation and management of flora and fauna,

(b) for the preservation of specified areas and objects therein that are of geological, cultural, ecological or other scientific interest, and

(c) to facilitate their use and enjoyment for outdoor recreation

4. Recreation areas shall be developed and maintained to facilitate their use and enjoyment for outdoor recreation.

Provincial Parks Act

The flexibility of the Provincial Parks Act to achieve specific objectives is greatly enhanced by the powers of the Minister who "may establish, develop and maintain a system and classification of parks and recreation areas" and by the Minister's authority to "zone any portion of a park or recreation area so as to regulate or confine the various uses of land resources and water within the park or recreation area."

Applying the management tools of classification and zoning, both parks and recreation areas could be set aside to satisfy wilderness recreation demands. Alberta has flirted with the idea of classification and zoning for a number of years, although little has actually been implemented. The latest statement of Alberta Recreation and Parks' intent in this regard is outlined in Foundations for Action (1988). This document outlines the criteria for two classes of park (Heritage Provincial Parks and Natural Environment Provincial Parks) along with four classes of recreation areas (Integrated Recreation Areas, Provincial Recreation Areas, Regional Recreation Areas and Wayside Recreation Areas). Within this classification framework, the heritage provincial park is best suited to accommodate wilderness preservation. Unfortunately, to date, most of Alberta's parks are small and would not be classed as heritage provincial parks. Only Peter Lougheed Provincial Park, and perhaps Notikewin and Cypress Hills Provincial Parks, are large enough to offer an opportunity for wilderness preservation.

Like any other piece of legislation, arguments can be made that there are numerous deficiencies in the Parks Act. In part, the deficiencies in addressing wilderness preservation gave rise to the present Wilderness Areas, Ecological Reserves and Natural Areas Act. As well, park boundaries can be changed by Cabinet without debate in the Legislature. The Minister also has considerable discretion to approve development and industrial use. All things considered, however, probably the greatest shortfall of the Parks Act is the failure of park administrations to use it to its full potential.

Despite policy statements calling for larger parks (Alberta Recreation and Parks Position Paper 13), only one large park, Peter Lougheed Provincial Park, has been established.

The Forests Act

Although of little use for wilderness designation, since it deals only with forests and not with other resources, the Forests Act is important for the management of wilderness until such time as the area can be legally designated. This is particularly so with regard to part 3, dealing with Forest Land Uses. Under this part of the Act:

The Lieutenant Governor in Council may make regulations

(a) declaring any area of forest land to be a forest land use zone;

(b) permitting, prohibiting, regulating or controlling uses of land in forest land use zones;

(c) declaring any area of forest land to be a forest recreation area or forest recreation trail;

(d) governing the use of forest recreation areas or forest recreation trails and prohibiting, regulating or controlling activities therein;

In addition, the Minister may: *...prohibit or restrict entry to all or any part of a forest recreation area or forest recreation trail,* or *...prohibit any use or activity in all or any part of a forest recreation area or forest recreation trail.* Forest Land Use Zones (FLUZ) have been established to manage the amount and kind of access in some areas of the Eastern Slopes Prime Protection Zone. Although a FLUZ does not affect

resource extraction or industrial use, this provision of the Forests Act has good potential to protect wilderness values from motorized recreation and recreational abuse in de facto wilderness areas within forest reserves.

Water Resources Act and Department of the Environment Act

The Water Resources Act is based on the Northwest Irrigation Act of 1894. With the passage of this Act, private riparian rights were curtailed and water rights became the property of the Crown, which then assumed responsibility for all water use allocations. In 1894, water, which had been the sole property of the landowner whose property adjoined a water body, became a public trust and responsibility.

The Act's frontier origins are betrayed by its treatment of water as a resource to be allocated to beneficial uses, none of which include keeping rivers or natural wetlands alive. However, section 11.1.c of the Act states, ... *a person may acquire ... a licence to use water in its natural state for the purpose of conservation, recreation or the propagation of fish or wildlife or for any like purpose* ... This provision was tested in the late 1980s when Trout Unlimited Canada applied for such a license for the Highwood River. The application was dismissed out-of-hand by the province in spite of the fact that irrigation water withdrawals were causing repeated fish kills in the Highwood.

The Department of the Environment Act in 1971 authorizes the Minister of Environment to protect rivers and wetlands, but only by means of an awkward application of Section 15. This section says that water conservation areas can be established for the purpose of protecting water resources from detrimental uses and for: ...*retaining the environment of the area in a natural state or in a state suitable for recreation or the propagation of plant and animal life.*

Despite the existence of this legislation, it has not been used by the provincial government to establish a system of protected wild rivers and wetlands. The main stumbling blocks is the antiquated Water Resources Act and the accompanying water policy entitled Water Management Principles for Alberta. Both require – and are in the process of receiving – a complete overhaul based on a more holistic understanding of rivers and wetlands. The public has requested specific provisions for the protection of wild rivers and wetlands.

Other Legislation

Interpreted and applied imaginatively, several other pieces of legislation could provide varying degrees of protection and management of wilderness in Alberta. Restricted development areas under the Department of the Environment Act could specifically be written for this purpose. Similarly the Minister of Municipal Affairs has the authority to establish recreation areas in special areas or Improvement Districts pursuant to the Recreation Development Act. Given the existence of more suitable legislation, however, it is doubtful either of these Acts will become useful for preserving Alberta's wilderness heritage.

Chapter Six

Wilderness for Tomorrow

Man always kills the thing he loves, and so we the pioneers have killed our wilderness. Some say we had to. Be that as it may, I am glad I shall never be young without wild country to be young in. Of what avail are forty freedoms without a blank spot on the map?
Aldo Leopold, 1949.

The Demand for Wilderness

All the wilderness we have left now is the most we shall ever have. Once lost, we cannot build more, even if demand in the future shows that too little was protected today.

Given this, what is the actual demand for wilderness?

Studies similar to those completed in Colorado, which estimated the recreation use and economic value of preserving wilderness lands and rivers, are desperately needed in Alberta. Such studies, to be valid, should examine the values all Albertans place on the preservation of wilderness — not just the values of those who actually use wilderness. In the absence of such information on the total economic value of wilderness to Albertans (including recreation use and preservation), government assessments may continue to underestimate the public demand for wilderness lands and rivers in Alberta.

Even in the absence of comprehensive studies, there is a lot of information that points to high demand for wilderness protection in the province.

Public Demand

For example, in the single decade from the mid 1960s to the mid 1970s, use of national park wilderness in Alberta increased eight-fold. Use has since levelled out, partly due to quotas and other restrictions on wilderness use.

Between 1965 and 1980, use of U.S. wilderness areas doubled.

A 1973 province-wide survey found that most Albertans were in favour of establishing *...wild land areas...where most outdoor activities are allowed but where motorized vehicles and natural resource industries are forbidden.* (ECA 1974).

A 1981 Alberta Recreation and Parks survey found that Albertans rank non-motorized outdoor recreation as one of the top four preferred leisure activities.

A 1984 survey asked residents of Edmonton and Calgary how important they felt it was that the Alberta government develop and maintain areas for various purposes. Respondents placed the highest priority on the protection of plants and animals, natural regions, and wilderness areas from development. The vast majority also strongly disagreed with the idea that setting aside wilderness areas is not worthwhile if it means keeping out motorized transportation. Most also felt that energy and mineral deposits should not be developed if they occured in wilderness areas (Jackson, 1989).

More recent studies show that public interest in wilderness protection has increased. In 1985, the Chief Executive Officer of the Environment Council of Alberta wrote:

... From the attitudes expressed by members of our Public Advisory Committees and by extra-polating results of environmental surveys from other areas, I find it difficult to believe that Albertans are less protective of the Eastern Slopes than they were in 1973. On the contrary, the public seems to be more concerned with environmental matters and more willing to pay to see that environmental quality is maintained.

A 1987 Gallup poll found that 95% of Canadians approve of government spending on wilderness preservation.

It is worth noting that demand for wilderness is predominantly local. For example, 41% of visitors to the Willmore are from the immediate vicinity, with a further 21% from the Edmonton area. This suggests that wilderness opportunities need to be dispersed across the province, not concentrated in one region, in order to meet public needs. Unfortunately, more than 85% of the area currently protected as wilderness in Alberta is in Wood Buffalo National Park, well out of reach of all but the most determined Albertans.

Southern Albertans are already facing a future with too little wilderness to meet public demands. By 1974, the 426 km^2 Waterton Lakes National Park was reported to be too small to handle increasing use. In 1983, the Minister of Recreation and Parks wrote that his department *recognizes the scarcity and sensitivity of the few remaining wildland and recreation areas of southern Alberta.* Ironically, in November of the same year, the Alberta Forest Service approved clearcut logging within the virgin, high elevation Continental Divide forest of the Oldman River headwaters – the last surviving wilderness in the southern Rocky Mountains.

Will public demand for wilderness decrease in the future? Not likely. Researcher G.H. Stankey lists six factors contributing to increased future demand for wilderness:

- growing population
- increases in average education levels
- increases in available leisure time
- the tendency of outdoor recreationists, as they become more experienced, to seek out more remote and challenging areas
- increased popularity of existing wilderness areas, which drives existing users to seek less crowded, new areas
- increasing environmental concern amongst the general public.

Alberta is one of the fastest growing provinces in Canada. Its population has grown by 54% since 1964. Yet the amount of legislatively protected wilderness has decreased over the same period by 13%. Clearly, we are far short of meeting current and future public demand for wilderness.

Ecogical Demand

Alberta Recreation and Parks has mapped Alberta's natural regions to provide a framework for a system of protected areas which would encompass the whole range of Alberta's ecological diversity.

Table V-1 shows the natural regions which lack adequate protection under any type of park or wilderness designation. Those without adequate protected areas, from an ecological and geographic perspective, are:

Grassland

Mixed grassland
Northern Fescue grassland
Foothills grassland

Parkland
- Central parklands
- Foothills parklands
- Peace River parklands

Foothills
- Main foothills
- Northern Outliers foothills

Montane Boreal
- Sub-Arctic
- Mixed Wood boreal forest

Canadian Shield
- Kazan Upland
- Athabasca Plain

For seven of Alberta's natural regions the preferred option of protecting large roadless wilderness areas (greater than 500 km^2) no longer exists. The natural landscape has been fragmented and changed too extensively. The largest remaining natural areas in these seven regions are:

Northern Fescue Grassland
- Little Fish Lake (315 km^2 including the existing 22 km^2 Hand Hills Ecological Reserve)

Foothills Grassland
- Ross Lake (8 km^2)

Central Parkland
- Rumsey Parkland (108 km^2 including the existing 34 km^2 Rumsey Ecological Reserve)

Peace River parkland
- Saskatoon Mountain (9.1 km^2), Child Lake and Jean D'Or Prairie

Northern Outlier Foothills
- Western Swan Hills (parts of the 1119 km^2. total area, including the 12.5 km^2. Goose Mountain Ecological Reserve)

Montane
- Whaleback (236 km^2 including the 26 km^2 Upper Bob Creek Ecological Reserve)

In 1989, Alberta Recreation and Parks completed a more in-depth classification of natural regions in Alberta, identifying categories of natural phenomena in each of the 17 natural regions. This system includes 134 natural history themes. Almost all of the themes, (127 of 134) do not have adequate representative areas protected. From this biophysical perspective, the provincial system of protected areas is 95% incomplete (see Appendix V).

If one objective of a protected areas system is to ensure that the full range of Alberta's biological diversity is protected, then the demand for wilderness from a purely ecological perspective has barely begun to be met.

Alberta's Wilderness Agenda

Wilderness is a resource which can shrink but not grow... It follows, then, that any wilderness program is a rearguard action, through which retreats are kept to a minimum
Aldo Leopold, 1949.

Wilderness for Alberta

How much wilderness remains in Alberta? How much is needed, from both cultural and ecological perspectives? How much of our dwindling supply of remnant wilderness lands and rivers should be preserved?

No province-wide assessment of remaining de facto[5] wilderness has ever been done by the provincial government. In the absence of such a list, public interest groups such as the Alberta Wilderness Association and World Wildlife Fund Canada, have drawn together what fragmented information is available from government agencies, academic institutions, and their own members. This information is contained in Appendices II and III, and the Prairie Conservation Action Plan. It forms the starting point for developing an achievable wilderness agenda for Alberta.

Unfortunately, the list is still far from complete. While there is considerable information available on land use

[5]"De facto" wilderness is an area that has all the values of wilderness but remains without protection. It has all it needs except the promise of a future.

in the Rocky Mountain, Foothill, Grassland and Aspen Parkland natural regions (and a few surviving natural lands), further assessment is needed to determine appropriate boundaries and to assist with future management plans for sites in these areas. Much more information is required for all of the boreal forest natural regions to identify and delineate the most important areas for wilderness protection. The best approach, long overdue in Alberta, would be to do a province-wide inventory and assessment of surviving de facto wilderness, and then develop a strategy to protect key areas.

Much more work remains to be done, but the existing data offer a starting point for the task of assembling a comprehensive system of protected areas. What is lacking is political will.

There is an urgent need to protect large areas within each of the six major groupings of natural regions in Alberta. As part of the national Endangered Spaces Campaign Alberta conservation groups have recommended the following wilderness areas for immediate designation:

Prairie

Milk River-Lost River
CFB Suffield (east block)

Foothills

Clear Hills-Chinchaga
Western Swan Hills

Rocky Mountains

Bighorn Wildland Recreation Area
Kakwa

Parkland

Rumsey Aspen Parkland (entire block)

Boreal

Christina-Clearwater Rivers
Clear Hills-Chinchaga
Lakeland

Canadian Shield

Lake Athabasca (north shore)-Wylie Lake
Colin Lake

These sites were discussed in 1990 at a meeting between the Ministers of Alberta Forestry, Lands and Wildlife and Recreation and Parks, and representatives from the Alberta Wilderness Association, the Canadian Parks and Wilderness Society, and the World Wildlife Fund Canada. To date, only CFB Suffield has received legal protection.

The Prairie Conservation Action Plan – developed by a wide range of agencies and organizations under the coordination of World Wildlife Fund Canada – identifies 10 sites in and around which large, representative natural areas should be protected in order to safeguard threatened ecological resources. All 10 are included in Appendix VI.

Appendix VI constitutes a more inclusive list of proposed wilderness areas, ecological reserves, and wild rivers in need of formal protection, based on studies by the Alberta Wilderness Association, Alberta Recreation and Parks, and World Wildlife Fund Canada. Fifteen of these are known to be internationally or nationally significant, six are of national significance, 26 of provincial significance, and 14 of regional significance. More information is required for most of the boreal sites before their significance can be determined.

Based on this incomplete list, an estimated 19,800 km^2 of lands and waters require legislated protection to complete a system of wilderness, parks, recreation areas, natural areas and ecological reserves in Alberta. Of this total, an estimated 17,900 km^2 would be designated as wilderness.

This wilderness agenda for Alberta would leave 96% of the province open to present and future development. If the federal national parks are added to the total, then 88% of Alberta would still remain open to development, including tourism and recreation facility development.

More importantly, it would ensure the protection, for all time, of a rich cross section of wild Alberta's natural heritage.

Alberta in a National and Global Context

Alberta does not exist in isolation. Just as Arizona's Grand Canyon, Yukon's Old Crow Flats and Tanzania's Serengeti Plains are wilderness landscapes of global significance, and are thus protected on behalf of the world community, so Alberta contains globally significant wilderness landscapes. With them comes a global responsibility.

Other nations have far surpassed Canada and Alberta in working to preserve cultural and natural treasures on behalf of the world community. The pyramids of Egypt, the Acropolis in Greece and the Taj Mahal in India might have been left to time and weather if it were not for their vital importance to humankind's understanding of itself. By the same token, Alberta's unique wilderness settings include places that speak to all humankind. We have stewardship responsibilities that extend beyond our petty ambitions and temporary desires.

In 1982, the World Parks Congress in Bali called upon nations to protect at least 10% of their land area as wilderness. This goal has also been endorsed by the United Nations Environment Program. In 1984, at their General Assembly, the International Union for the Conservation of Nature (IUCN) declared that: *wilderness areas are characterized by an essentially natural condition, without roads or significant developments, and which are maintained to perpetuate those conditions and to afford opportunities for recreation which emphasizes solitude and communion with nature.*

The IUCN pointed out the important role of wilderness *...in protecting the diversity of both flora and fauna and thus assuring the conservation of biological diversity in situ, as recommended in the World Conservation Strategy.* It went on to point out *...that the growing human populations of the world increasingly will need the values of wilderness, and the opportunity to experience them,* and concluded with a recommendation: *...that all nations identify, designate and protect their wilderness areas on both public and private lands.*

More recently, the Brundtland Commission called for a tripling of the amount of protected areas and recommended that at least 12% of a nation's land be fully protected.

Unlike Alberta and Canada as a whole, a number of areas in the world have been actively responding to these recommendations and the growing public demand for the protection of natural ecosystems. Seven nations have reached or exceeded the recommended level of protection, and another 15 countries are halfway there.

Because of our large geographical area, and the number of nationally and internationally significant wild areas of which we are stewards, Alberta's failure to meet internationally accepted targets of 12% protection for each of our natural regions is an international embarrassment. Alberta has swiftly fallen behind other areas of Canada and the world in terms of wilderness legislation and protection. Wealthy by most measures, Alberta communicates poverty in its failure to protect wilderness and ecosystems. Third World countries like Kenya, Tanzania and Botswana have better track records than Alberta. Indeed, while other regions and nations have increased their amount of legislatively protected wilderness lands and rivers, Alberta has 13% less wilderness protected under legislation today than in 1965.

The Alberta Wilderness Association has proposed eight internationally-significant sites for consideration as World Heritage Sites. These are:

Kleskun Hill
Little Fish Lake
Peace-Athabasca Delta (entire delta) and Slave River
Plateau Mountain
Rumsey (entire block)
Waterton-Glacier International Peace Park
Writing-on-Stone
Zama Lake

A further seven sites are known to be of national significance and have been referred to IUCN for assessment in a global context to determine if they are of World Heritage Site calibre. These are:

Reaches of the Belly and Oldman Rivers
Milk River-Lost River
Lower Red Deer River valley
Reflex Lakes-Killarney Lake sand plain
CFB Suffield-South Saskatchewan River
Western Swan Hills
Whaleback

All sites are briefly described in Appendix VI.

Action: What Must We Do Now?

Future land use options, including the option of preserving examples of our wilderness heritage, are being foreclosed on a massive scale within Alberta. Albertans, like the rest of Canadians, must act decisively and quickly to preserve their wild lands and rivers.

We cannot make more wilderness, and there are no substitutes. Once gone, it is gone forever.

An action plan for wilderness must include the following key elements:

- Immediate action to place moratoria on any development or other inappropriate use of candidate wilderness areas.
- Immediate launch of a program to inventory and classify surviving de facto wilderness areas and wild waters in the province so as to assess which areas are most worthy, and in need, of protection.
- review of existing laws and regulations to ensure that wilderness can be effectively protected and managed once candidate wilderness areas have been confirmed.
- Provision for public confidence and supervision. Albertans are willing and ready to take responsibility for their wilderness heritage, and are reluctant to trust government agencies having vested interests in development. To empower Albertans to become effective stewards of wilderness, legislation is required to ensure:
  - comprehensive, mandatory environmental impact assessments of all development activities that may affect wilderness. These assessments must precede any development activities or government approvals, must consider all alternatives and all economic values, and must be independent of political control.
  - full public access to information from government agencies and elected representatives.
  - an independent environmental advisory body with the authority to investigate public complaints or concerns regarding the use and management of public lands, and the ability to call public hearings. The now-defunct Environmental Conservation Authority was a working model.

We can protect wilderness if we want to. The costs are minimal: it costs far more to develop traditional parks and recreation areas or to subsidize resource exploitation. Most wilderness lands and waters are already under public ownership. Wilderness is a free good; perhaps that is why we have taken it for granted for so long that now it is almost gone. But that is also why it is one of the least expensive, and most beneficial, investments we can make in the future of our province.

The Prognosis

In 1989, with the cooperation of organizations across Canada, the World Wildlife Fund Canada launched the Endangered Spaces Program to protect 12% of Canada.

In conjunction with that national program, the Alberta Wilderness Association drew on the support of other

Alberta groups to launch Alberta's Wilderness 2000 campaign. Individual citizens and organizations within Alberta are seeking:

(a) the commitment of government, industry and Albertans to the goal of completing a system of protected areas which adequately represents each of Alberta's natural regions by the year 2000

(b) the commitment of government conservation agencies to have action plans for achieving this goal in place by the end of 1990.

Several provincial governments and Canada's federal government have endorsed the Endangered Spaces Program and are already working on implementing their share of the responsibility. On a national scale, the federal Minister of Environment did, in fact, commit the federal government to completion of the national park system within 10 years. With the 1990 release of Canada's Green Plan, the federal government acknowledged that ... *we must accelerate our efforts towards meeting the target of setting aside 12 per cent of Canada's total territory as protected spaces.*

The federal role will be to contribute about a third of that protection target. The rest is up to provinces and other levels of government. Several provinces, including Ontario, have agreed to do their part.

Alberta has not endorsed the Endangered Spaces Program, and has steadfastly refused to acknowledge the cultural value and ecological need for wilderness protection.

Alberta has no approved policy or program for completing any sort of systematic protection of wilderness and ecological resources. Alberta is one of only two Canadian jurisdictions without a program for protecting wilderness rivers. We are well short of meeting international expectations for wilderness protection; several poverty stricken Third World countries are, in fact, far ahead of us.

It has been only 59 years since the Province of Alberta gained control over its natural resources, lands and waters.

Today, Alberta is left with only remnants of its original wilderness; areas which were too small, too remote, or too unproductive to make road building and development economically viable. The end of Alberta's remaining wilderness lands and rivers is within sight. The Oldman River Dam, northern pulp mill and logging projects, urban expansion in the Bow Corridor and other changes are eliminating wilderness options right now.

Nonetheless, there is widespread support among Albertans for wilderness protection. If that support can evolve into committed advocacy within this decade, there are still real possibilities for Albertans to ensure that we will carry the rich legacy of our wilderness with us into our common future.

We are the last generation of Albertans who will have the choice of whether to preserve examples of our wilderness heritage.

Can not we for once foresee and provide? Must it always be hindsight, followed by hurried educational work, laborious legislative campaigns, and then only partially effective action at huge expense? Can not we for once use foresight, and provide for our needs in an orderly, ample, correlated, economical fashion? The next resource, the exhaustion of which is due for 'discovery' is the wilderness.
Aldo Leopold, 1925

Glossary

Cabinet

The Ministers of the Crown appointed by the Premier of Alberta. Each Minister has a portfolio (eg: Environment, or Tourism,) for which he or she is responsible. Collectively, they represent a sort of management committee of the government. They make policy and set the government's spending priorities.

De facto wilderness

An area of land that has all the characteristics of wilderness, but lacks any sort of protected status. This means that while it has no roads, no signs of industrial activity, and a high degree of ecological integrity, all that could end tomorrow without some sort of protection.

Ecological Reserve

An area of land (usually fairly small) that is set aside and rigidly protected under the Wilderness Areas, Ecological Reserves and Natural Areas Act so that its ecological values will survive. These areas are set aside with eco-system protection and scientific study foremost. Some activities like cattle grazing or hunting may be allowed on a strictly-regulated basis if needed to replicate natural processes, but generally these are the most rigid of all protected area types.

Legislation

Laws passed into existence by a majority vote of the Legislature after extensive debate. Legislation can generally only be amended by the Legislature although some laws can be modified by the Cabinet. Legislation often contains a provision allowing a Minister or the Cabinet to set regulations. The regulations can then be changed without having to amend the legislation.

Legislature

The complete assembly of all the elected representatives of Alberta. Your MLA (Member of the Legislative Assembly) is one member, with one vote. The Legislature debates, amends and approves legislation on virtually all aspects of public life.

National Park

An area of land set aside and protected by the federal government under the authority of the National Parks Act. Most national parks contain areas protected as wilderness.

Natural Area

An area of land designated under the Wilderness Areas, Ecological Reserves and Natural Areas Act to protect its natural attributes. Virtually any kind of land use can be permitted by the Minister of Forestry, Lands and Wildlife within a natural area, but these areas are generally more responsibly cared-for than other public lands. Most Alberta natural areas are monitored by volunteer public stewards.

Provincial Park

An area of land set aside and managed by the provincial government under the authority of the Provincial Parks Act. Most provincial parks are small and developed for camping and other forms of intensive recreational use. Some, however, are large and contain wilderness portions.

Regulations

Specific, enforceable rules established under the authority vested in a Minister, or in Cabinet, under legislation. For example, the National Parks Act enables the federal Minister of Environment to make regulations controlling the uses of national park lands.

Policy

A set of guidelines and principles which are intended to guide government decision-making with regard to an area or a particular subject. The Eastern Slopes Policy, for example, sets guidelines for land use within various zones. Policy has no legal standing and the government is not obliged to follow it. Policy represents a moral commitment to the people of the province, not a legal one.

Untrammeled

Unmarked by human beings and left to its own devices; free of any human intervention that might limit the ability of Nature to function on its own.

Wilderness

The internationally-accepted definition for wilderness is a protected area having "...two principal purposes, that of protecting nature (defined as primary) and that of providing recreation for those capable of enduring the vicissitudes of wilderness travel by primitive means (without motorized transport, roads, improved trails and developed campgrounds, etc.). The area is maintained in a state in which its wilderness or primitive appearance is not impaired by any form of development, and in which the continued existence of indigenous animal and plant species is assured. However, it is available to wilderness travellers, essentially in its entirety, and thus does not have the limits on use that are imposed on strict or managed natural areas. Some modifications of natural conditions resulting from wilderness recreational use may be expected, but major modifications need be avoided through restricting either the number of visitors or their activities.

Wilderness Area

An area set aside and protected under authority of the Minister. This is not wilderness according to the internationally-recognized definition but is, effectively, an ecological reserve. As such it serves an essential, but limited, role within the spectrum of protected areas.

Wildland Recreation Area (Recreational Wilderness)

A proposed land use category that many Alberta conservationists feel is essential to ensure that wilderness is protected and properly managed. There is not, at present, any legislation or policy that accommodates this kind of land use except for the Willmore Wilderness Park Act. This sort of area would be protected from all industrial or mechanized uses, would be large enough to allow for multi-day travel, and would accommodate non-motorized recreational activities on the basis of specific management plans.

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Appendix I

Baseline Statistics

	mi^2	km^2	percent
Total Area of Alberta	255,285	661,185	100.0
Privately owned land*	72,422	187,572	28.4
Federally controlled land (National Parks, research stations, military reserves)	24,372	63,123	9.5
Provincially controlled public land	155,955	403,924	61.1
Indian Reserves	2,535	6,566	1.0
Total:	**255,285**	**661,185**	**100.0**
Eastern Slopes Region			
(federal & provincial)	35,549	92,072	13.9
(provincial)	28,582	74,027	11.2
All parks (federal & provincial including designated wilderness, ecological reserves & natural areas)	23,749	61,509	9.25
Total provincial:	**2,867**	**7,425**	**1.12**
Total federal:	**20,882**	**54,084**	**8.18**

* includes those lands under disposition leading to title

Appendix II

Wilderness in Alberta

Areas With Legislated Protection

	mi^2	km^2	% of Alta
Willmore Wilderness Park (Willmore Wilderness Park Act)	1,775	459	0.7
Wilderness Areas (Wilderness Areas Act)			
Siffleur	159	412	
White Goat	171	443	
Ghost River	59	152	
Subtotal:	**2,164**	**5,605**	**0.85**

Areas With Protection Through Policy

National Parks
(Parks Canada Policy designates Wilderness Zones)

	Wilderness Zoned Lands					
	mi^2	km^2	% of Alta	Total mi^2	Total km^2	% of Alta
Wood Buffalo (Alta.section only)	13,286	34,411	5.2	13,840	35,845	5.42
Jasper	5,405	14,000		4,200	10,878	1.65
Banff				2,564	6,641	1.00
Waterton Lakes	95	245	2.16	203	526	0.08
Elk Island				75	194	0.03
Subtotal:	**18,786**	**48,656**	**7.36**	**20,882**	**54,084**	**8.18**
Total Protected as Wilderness: (through legislation or policy)	**20,950**	**54,261**	**8.21**			

Proposed Wildland Recreation Areas (wilderness)

	mi²	km²	% of Alta
Eastern Slopes			
(Rocky Mountain Natural Regions):			
Kakwa	184	477	
Folding Mountain	42	109	
White Goat	311	806	
Ram-White Rabbit	661	1713	
Panther Corners	73	189	
Burnt Timber-Waiparus	135	350	
*South Ghost	93	241	
Elbow-Sheep Headwaters	555	1438	
Upper Oldman	115	298	
North Porcupine Hills	50	130	
Whaleback	91	236	
South Castle	183	474	
(Upper Kananaskis is now within a Prov. Park)			
Subtotal:	**2,493**	**6,461**	**0.98**
Boreal Forest Natural Regions:			
Athabasca Sand Dunes-Richardson Lakeland	1,348	3,491	
Birch Mountains (approx. area)	1,961	5,080	
Western Swan Hills	432	1,119	
Lake Athabasca (N. Shore) &			
Wylie Lake (approx.)	309	800	
Lakeland	197	510	
Subtotal:	**4,247**	**11,000**	**2.00**
Aspen Parkland Natural Regions:			
Rumsey	70	181	0.02
Subtotal:	**70**	**181**	**0.02**
Grassland Natural Regions:			
Milk River-Lost River	110	285	0.04
Subtotal:	**110**	**285**	**0.04**
Total Proposed for Protection:	**6,920**	**17,927**	**3.04**

Proposed Natural Rivers (wild rivers)

	Corridor Length	
	mi.	km
Athabasca (Athabasca to Ft. McMurray)	392	630
Belly River (sec rd #505 to sec rd #511)	25	40
Christina	121	195
Clearwater (Sask. border to Ft. McMurray)	60	97
Kakwa	72	115
Milk River (sec rd #880 to US border)	89	55
Oldman River (sec rd #785 to MacLeod Island)	25	40
Ram River	16	25
Red Deer-Lower (hwy #36 to Sask. border)	125	201
Slave River (Lk. Athabasca to Great Slave Lk.)	106	170
Subtotal:	**1,031**	**1,608**

Proposed Recreational Rivers

	Corridor Length	
	mi.	km
Bow River (Bearspaw to Blackfoot Indian Reserve)	75	120
Macleod River (Mercoal to Edson)	103	165
North Saskatchewan (Nordegg to Edmonton)211	340	
Oldman (Headwaters to North Fork Bridge)	56	90
Peace (Cherry Point to Dunvegan)	84	135
Ram - North and South Ram	71	115
Red Deer - Upper (Banff Nat. Park to Sundre)	57	92
Wild Hay (Rock Lake to Athabasca)	84	135
Subtotal:	**741**	**1,192**
Total River Reaches proposed for protection:	**1,772**	**2,800**

Appendix III

National Parks in Alberta – Historical Sizes

		mi^2	km^2
Waterton Lakes National Park			
1895	established	54	140
1911	reduced to	13.5	35
1914	enlarged to	500	1,295
1921	reduced to	220	570
1945 & 1955	reduced to	203	526
Jasper National Park			
1907	established	5,000	12,950
1911	reduced to	1,000	2,590
1914	enlarged to	4,400	11,396
[1927	980 sq. mi. added; then removed and put in Rocky Mtn. Nat'l. Park in 1929]		
1929	enlarged to	4,517	11,699
1930	reduced to	4,082	10,572
	present	4,200	10,878
Elk Island National Park			
1913	established	75	194
Banff National Park			
1885	Hot Springs Reserve established	10	26
1887	enlarged, Rocky Mtn. Nat. Park	260	673
1892	Lake Louise Reserve established	51	132
1902	Rocky Mtn. Nat. Park enlarged	4,900	12,691
1911	reduced to	1,800	4,662
1917	enlarged to	2,751	7,125
1930	Banff Nat. Park reduced to	2,580	6,682
1964	reduced to present size:	2,564	6,640
Wood Buffalo National Park (Alta. & NWT)			
1922	established	10,500	27,195
1926	enlarged to	17,300	44,807
Buffalo National Park			
1908	established	200	518
1947	dissolved	0	
Wawaskesy National Park			
1922	established	54	140
1938	dissolved	0	
Nemiskam National Park			
1922	established	8.5	22
1947	dissolved	0	

Appendix IV

Various Crown Land Designations* in Alberta

Legislated Land Designations

	Area (km^2)	% of Alberta
National Parks (includes wilderness and special preservation, as well as zones which permit recreation and tourism development, and roads)	54,084	8.18
Provincial Parks (includes areas which permit recreation and tourism development, and roads)	1,264	0.19
Natural Areas (includes conservation, recreation and education natural areas)	345	0.05
***Forest Land Use Zones** (lands where motorized use and recreational use may be controlled by regulation; no prohibition of resource development activities)	*5,643	*0.85
***Provincial Recreation Areas** (areas of recreation facility development, e.g. wayside campgrounds)	*112	*0.02
Willmore Wilderness Park	4,598	0.69
Wilderness Areas	1,007	0.15
Bird and Wildlife Sanctuaries	693	0.10
***Forest Recreation Areas** (small sites encompassing recreation facilities, primarily campgrounds inside the Forestry Reserves)	*1,214	*0.18
Ecological Reserves	211	0.03
Total: (*including non-protected areas)	**69,171**	**10.46**
Total in protected areas:	**62,202**	**9.41**

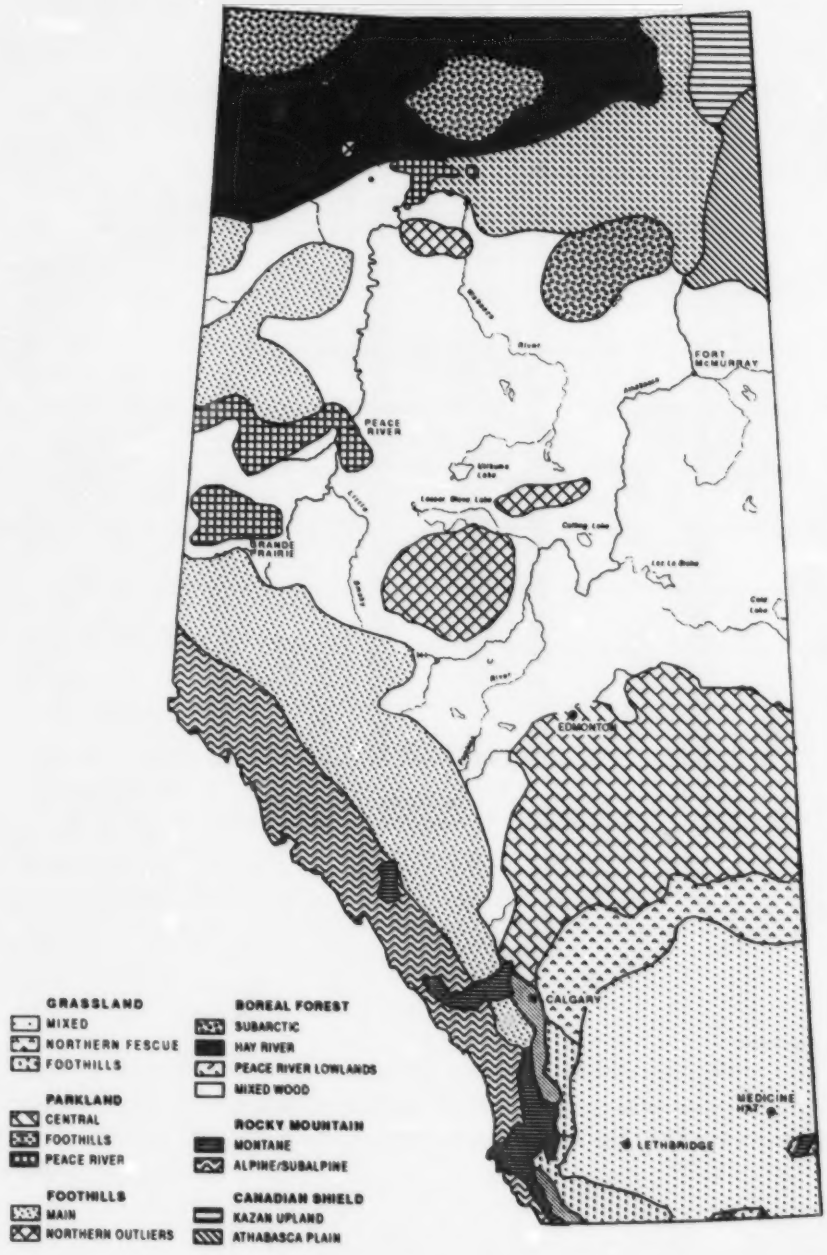
* some categories are used by provincial agencies as contributing to Alberta's protected areas total. However, they do not meet internationally accepted criteria for wilderness or ecological reserves, provide no legal protection, and cannot be considered secure.

	Area (km^2)	% of Alberta
Lands Under Protective Reservation (under consideration for possible future legislated protection)		
Ecological Reserves	133	0.02
Natural Areas	648	0.10
Proposed Provincial Parks and *Recreation Areas	515	0.08
Total:	**1,296**	**0.20**
***Military Reservations**	***8,517**	***1.29**
Lands Under Land-Use Zoning Policies		
Eastern Slopes Policy		
*Prime Protection Zoning	*12,977	*1.96
*Critical Wildlife Zoning	*6,524	*0.99
*Within Integrated Resource Plans outside the Eastern Slopes	*3,781	*0.57
Total:	***23,282**	***3.52**

*provides no legal protection from resource exploitation or other non-wilderness land uses.

Appendix V: Protected Areas in Alberta

Figure V-1: ***Natural Regions of Alberta***



SOURCE: Adapted from Alberta Recreation and Parks (1990)

Figure V-2: ***Distribution of Protected Areas by Size and Natural Region***

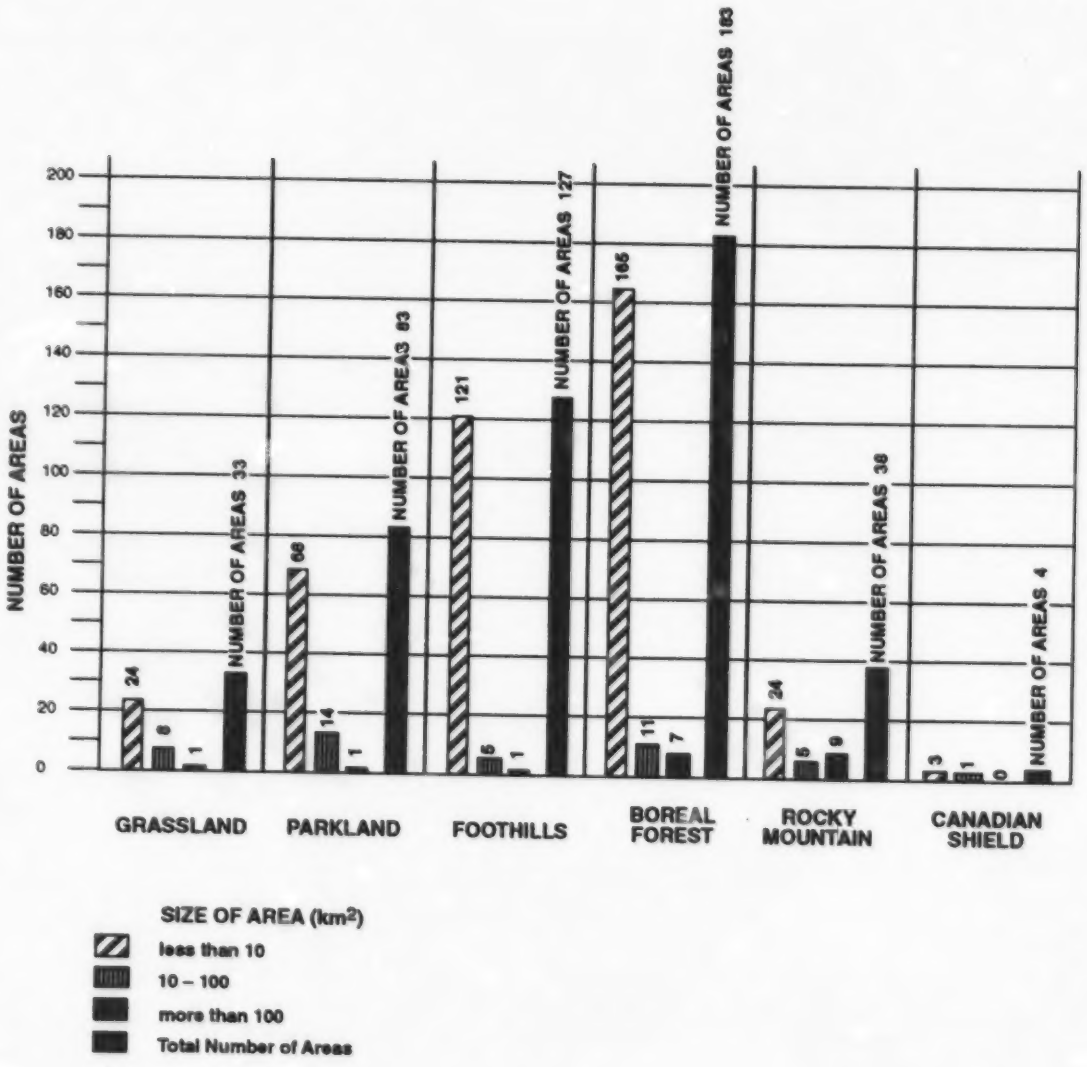


Table V-1: ***Distribution of Provincial Parks, Ecological Reserves, and Wilderness Areas in Alberta, by Natural Region***

Natural	Provincial Parks	Ecological Reserves (No. sites: Area (km^2)	Wilderness Areas
Grassland			
Mixed*	8:89	1:11	
Northern Fescue	2:8	1:22	
Foothills*	4:79	0:0	
Parkland			
Central	15:53	2:62	
Foothills	4:12	0:0	
Peace R.	4:3	1:18	
Foothills			
Main	3:63	1:8	
Northern Outliers*	1:30	1:12	
Boreal Forest			
Subarctic	0:0	0:0	
Hay R.	0:0	0:0	
Peace R. Lowlands	0:0	0:0	
Mixedwood*	21:434	2:18	
Rocky Mountain			
Montane*	3:152	2:58	
Subalpine/Alpine	1:501	0:0	3:1,010
Canadian Shield			
Kazan Upland	0:0	0:0	
Athabasca Plain	0:0	1:38	
Totals	**66*:1,424**	**12:247**	**3:1,010**

* indicates natural subregion that contains part of or an entire park. The total number of parks is 63. Three straddle two subregions: Cypress Hills (Mixed Grassland and Montane subregion of the Rocky Mountains), Lesser Slave Lake (Mixedwood Boreal Forest and Northern Outliers of the Foothills) and Fish Creek (Foothills Grassland and Foothills Parkland).

Appendix VI

Significant Natural Areas Proposed for Protection

This list outlines the known significant natural areas of interest in Alberta including wilderness lands and rivers. Much more information is required for the Boreal Forest natural region to determine natural areas suitable for preservation. As well, further assessments are required for many of the sites listed here, in order to determine appropriate boundaries and to assist with management of the site. Although the vast majority of these sites are public lands and waters, full consultation with landowners, lessees and other affected interests is essential to adequately protecting these areas. While the proposed status should be viewed as tentative, the goal of achieving adequate protection should always be a primary consideration.

A complete list of sites proposed as Natural Areas by the Alberta Forestry, Lands and Wildlife Department can be obtained from that Department. To date, these have generally been very small sites averaging less than 4 km^2 in size.

		Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
1.	**Alexander** – Woodman Lakes	•									
2.	**Athabasca River** (Athabasca to Fort McMurray) – Provincial Significance – 360 kilometre corridor				•						
3.	**Athabasca Sand Dunes** – Richardson Lakeland – Provincial Significance – approximately 3,491 km^2		•								
4.	**Beaverhill Lake** – Provincial (National?) Significance – approximately 163 km^2						•				•
5.	**Belly River-Oldman River** – National or International Significance – approx. 40 km. on Oldman River from secondary road 785 east to Macleod Island; 40 km. on Belly River from secondary road 505 north to secondary 511				•						

	Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
6. Berland River (Willmore Wilderness Park to Athabasca River) – Regional Significance – 170 kilometer corridor				•						
7. Birch Mountains – Provincial Significance – approximately 5080 km^2		•								
8. Bison Lake	•									
9. Bistcho Lake Wildland	•									
10. Bodo – Regional or Provincial Significance – 39 km^2						•				
11. Bow River (Bearspaw to Blackfoot Indian Reserve) – National or International Significance – 120 kilometre corridor					•					
12. Buffalo Head Hills	•									
13. Burnt Lakes Wildland	•									
14. Burnt Timber – Regional Significance – 350 km^2		•								
15. Bustard Island	•									
16. Cameron Hills	•									
17. Cardinal Divide – Provincial Significance – 58 km^2			•							
18. Caribou Mountains	•									
19. Castle – Provincial Significance – 474 km^2		•								

	Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
20. Caw Ridge – Provincial Significance (also see Kakwa) – 216 km^2 of the Kakwa candidate wildland recreation area		•								
21. Chalmers Trail – Provincial Significance									•	
22. Child Lake Prairie	•									
23. Chip Lake	•									
24. Chisholm – Lake Gray	•									
25. Christina River – Regional Significance – 195 kilometre corridor								•		
26. Christina –Surmont Wildland		•								
27. Christina – Winnefred Wildland		•								
28. Clear Hills – Chinchaga	•									
29. Clearwater River (Saskatchewan border to Fort McMurray) – National Significance – 97 kilometre corridor				•				•		
30. Colin Lake – Provincial Significance			•			•				
31. Crow Lake – Regional/Provincial Significance – 130 km^2			•							
32. David Lake – Wainwright – National Significance – approx. 45 km^2 plus area to be determined inside the Military Reserve		•								
33. Dog River – 80 kilometer corridor				•						

	Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
34. Elbow-Sheep Headwaters – Regional Significance – 1438 km^2		•								
35. Ells – Dover Rivers	•									
36. Fawcett Lake Wildland	•									
37. Firebag	•									
38. Folding Mountain – Regional Significance – 109 km^2		•								
39. Fort Assiniboine – Regional Significance – both sides of the Athabasca River, including the 94 km^2 Holmes Crossing candidate natural area						•				
40. Fort Hills – McClelland Lake	•									
41. Goosegrass – Gods Lakeland	•									
42. Gordon – Garson Wildland	•									
43. Haig – Sawn – Russell Wildland	•									
44. Harper – Moose Lake	•									
45. Horseshoe Lake – Provincial Significance – 91 km^2			•							
46. Island Lake	•									
47. Jim Creek Wildland	•									
48. John D'Or Prairie	•									

	Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
49. Kakwa (including the Kakwa River) – Provincial Significance – 115 kilometre river corridor plus 477 km^2		•		•						
50. Kleskun Hill – National or International Significance – 0.6 km^2 public land plus adjacent private land (needs study)			•							
51. Kootenay Plains – Provincial Significance – 32 km^2; has been established as the Kootenay Plains Ecological Reserve			•							
52. Lake Athabasca – (North Shore) and Wylie Lake – Provincial Significance – approximately 800 km^2		•								
53. Lakeland – Provincial (National) Significance –1,124 km^2		•								
54. Lesser Slave Lake – (North Shore) – Regional Significance – 80 kilometre corridor						•				
55. Little Fish Lake – National or International Significance – 315 km^2			•			•				
56. Little Smokey – Provincial Significance – 1,318 km^2		•								
57. Loon – Thickwood	•									
58. Macleod River (Mercoal to Edson) – Regional Significance – 165 kilometre corridor					•					
59. Marguerite Crag & Tail	•									
60. Marguerite Dissected Kame	•									

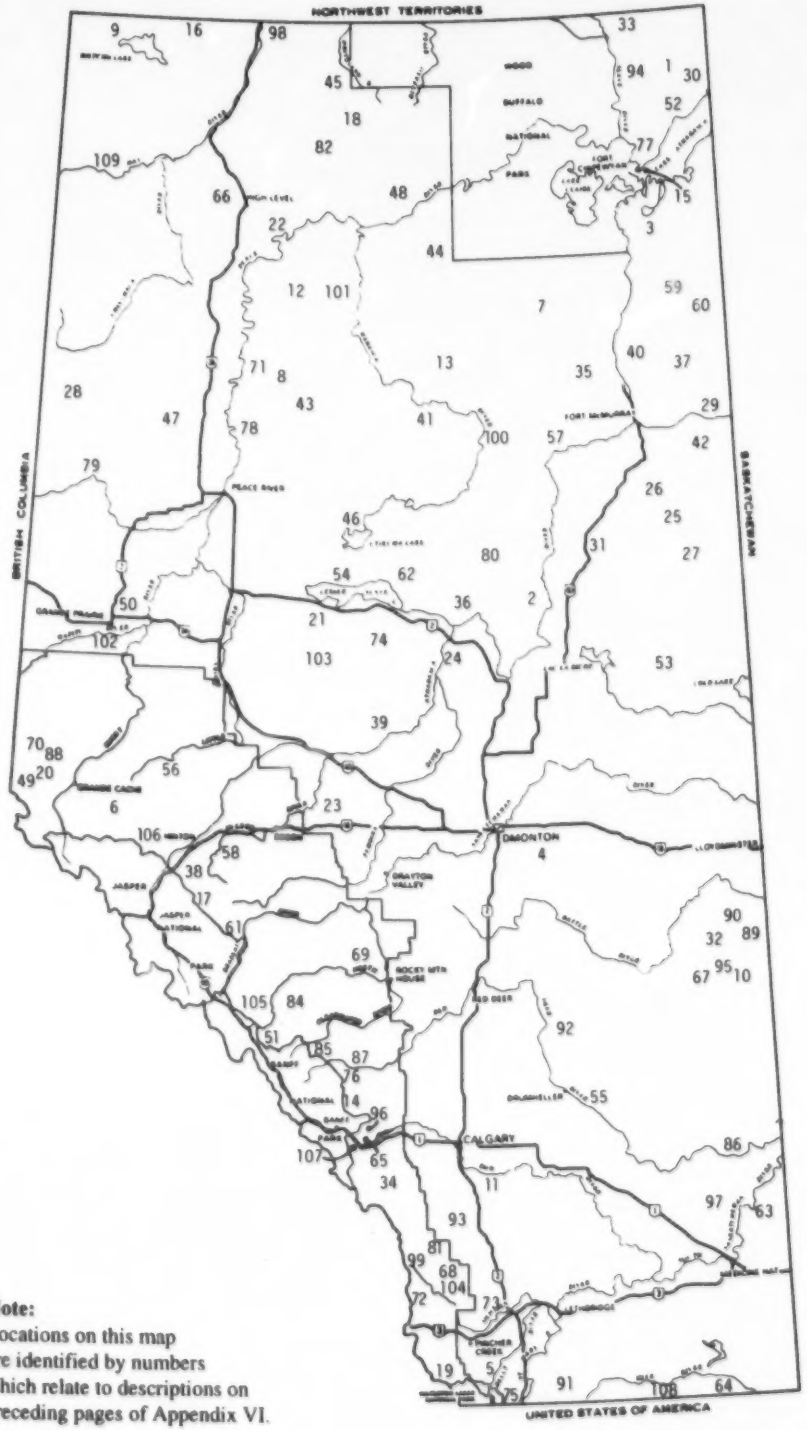
	Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
61. Marshybank Lake – Provincial Significance – 32 km²			•							
62. Marten Lakes Wildland	•									
63. Middle Sand Hills			•							
– National or International Significance – 22.7 km²										
64. Milk River-Lost River – National or International Significance – 500 km² (285 km² wildland recreation area proposal)		•								
65. Mount Yamnuska – Provincial Significance – 10 km²			•							
66. Mount Watt	•									
67. Neutral Hills – Provincial Significance – 50 km²						•				
68. North Porcupine Hills – Regional Significance – 130 km²		•								
69. North Saskatchewan River (Nordegg to Edmonton) – Provincial Significance – 340 kilometre corridor					•					
70. Nose Mountain	•									
71. Notikewin Dunes	•									
72. Oldman River – upper corridor (source to North Fork Bridge) – Provincial Significance see also Whaleback-Oldman, Becky River-Oldman River and Upper Oldman areas of interest – 90 km corridor					•					

	Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
73. **Oldman River** – lower corridor see Belly-Oldman River								•		
74. **Otauwau River Wetlands**	•									
75. **Paine Lake-Beaverdam Lake** – Provincial Significance – 20 km^2			•			•				
76. **Panther Corners** – Provincial Significance – 189 km^2		•								
77. **Peace** – Athabasca Delta (outside Wood Buffalo National Park) – International Significance								•		
78. **Peace** – Cadotte Wildland	•									
79. **Peace River** (Cherry Point to Dunvegan, including Silver Valley) – Provincial Significance – 135 kilometre corridor, includes the 18 km^2 Silver Valley Ecological Reserve within corridor					•					
80. **Pelican Mountain**	•									
81. **Plateau Mountain** – National or International Significance – 23.23 km^2 declared as an ecological reserve, July 1991			•							
82. **Ponton River** – Margaret Lake	•									
83. **Provincial Emblem** – Provincial Significance – area along Trans Canada highway from Calgary to Canmore		•	•							
84. **Ram River and its tributaries** – Regional Significance – 140 kilometre corridor				•						
85. **Ram-Whiterabbit** – Regional Significance – 1713 km^2		•								

	Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
86. Red Deer River – Lower Corridor (Highway 36 to Saskatchewan border, including Dune Point-Bindloss) – National or International Significance – 201 kilometre corridor				•						
87. Red Deer River – Upper Corridor (Banff National Park to Sundre) – National Significance – 92 kilometre corridor					•					
88. Red Rock – Prairie Creek – approximately 2,950 km^2; boundaries need further study			•							
89. Reflex Lakes-Killarney Lake sand plain – National or International Significance (adjoins Manito Lake-Reflex Lakes sand plain area of interest in Saskatchewan)			•							•
90. Ribstone Marshes – Provincial Significance			•			•				
91. Ross Lake (Milk River Ridge) – Provincial Significance – 8 km^2			•							
92. Rumsey – International Significance – 180 km^2		•								
93. Sheppard Creek – Provincial Significance – 3 km^2			•							
94. Slave River (Lake Athabasca to Great Slave Lake) – National or International Significance – 170 km.				•				•		
95. Sounding Lake – Sunken Lake sand plain – National or International Significance – approx. 500 km^2 area including only lakes, ponds and backshores areas			•			•				•
96. South Ghost – Regional Significance – 241 km^2		•								

	Boreal Forest	Wilderness	Ecological Reserves	Natural Rivers	Recreational Rivers	Natural Areas	National Wildlife Refuges	Canadian Heritage Rivers	Historic Trail Corridors	Migratory Bird Sanctuaries
97. Suffield Military Reserve – South Saskatchewan River – National or International Significance – 2600 km^2							•			
98. Swan Lake Wildland	•									
99. Upper Oldman – Provincial Significance – 298 km^2 and 45 km river corridor		•								
100. Wabasca River – 225 kilometer corridor from north of Wabasca Lake to Highway #88				•						
101. Wadlin Lake	•									
102. Wapiti Sand Dunes – Regional Significance – 89 km^2						•				
103. Western Swan Hills (including Goose Mtn.) – Provincial Significance – 1119 km^2		•								
104. Whaleback and Oldman River (Gap to Maycroft) – National Significance – 236 km^2 and 45 km. river corridor (see Upper Oldman River)		•								
105. White Goat – Regional Significance – 806 km^2		•								
106. Wildhay River (Rock Lake to Berland River) – Regional Significance – 135 km corridor					•					
107. Wind – Mount Allen – Provincial Significance – 46 km^2						•				
108. Writing-on-Stone (Police Coulee) – National or International Significance – 8 km. length of Police Coulee			•							
109. Zama Lake – National or International Significance – 460 km^2			•			•				

Figure VI-1: ***Locations of Significant Natural Areas Proposed for Protection***



Note:
Locations on this map are identified by numbers which relate to descriptions on preceding pages of Appendix VI.